

# RadEye HEC+ Alpha/Beta Sample Counter

**The Thermo Scientific™ RadEye™ HEC+ portable sample counting system, providing simultaneous alpha and beta radiation measurements. Readings are automatically logged for later retrieval to a PC.**

## Features and Benefits

- Simultaneous alpha/beta measurements in classic mode
- Special EC-Mode measures low energy beta emitters (e.g. Ni-63) and electron capture nuclides (e.g. Fe-55, Mn-54, Cr-51)
- Cost effective alternative to liquid scintillation counters for Ni-63 and H-3 samples
- 800 hours battery operation
- Customized library of up to 16 nuclides with automated half life correction
- Performance verification, HV adjustment and user training using natural (non-radioactive in respect to DOT) test adaptors: 3 g KCl (~1.3 nCi K-40) or 5 g Lu2O3 (~7 nCi Lu-176)

The system incorporates a 50 mm (2") windowless, low noise, dual phosphor scintillation detector that is sensitive for beta emitters from approximately 10 keV, low energy X-ray emitters from approximately 3 keV and alpha emitters. The detector is mated to a sliding drawer accommodating up to 60 mm (2.36 inch) diameter samples. Using a height-adjustable sampling area, the drawer permits the use of different sample types and must slide fully to the rear to initiate the counting.

The housing is made of durable plastic to withstand even rough handling. The built-in handle, in combination with the battery option, allows up to 800 hours field use before recharging.



The last 4500 values of the measured data in the selected measuring units are recorded internally and can be read out via USB interface. Additionally the RadEye HEC+ sample counting system logs the last 250 alarms, errors and changes of the configuration. All events are time stamped and can be read out via USB interface. The characteristic features of the RadEye HEC+ sample counting system are the use of sophisticated low power technology components and microprocessor based fully automatic self checks. No maintenance is required.

## RadEye HEC+ Specifications

<b>Detector</b>	50.8 mm diameter (20 cm <sup>2</sup> ), windowless alpha and beta-sensitive scintillator																																				
<b>Efficiency</b>	Typical sensitivity relative to surface emission rate (2π) for 50mm samples:																																				
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<b>Background</b>	≤ 1 cps in the beta and EC channel ≤ 0.05 cps in the alpha channel at 100 nSv/h (10 μR/h)																																				
<b>Crosstalk</b>	< 5% alpha into beta < 1% beta into alpha																																				
<b>Sample drawer</b>	The sample holder and slide have a durable finish for ease of decontamination. Adapters for a variety of circular and rectangular air filters and test sources are provided. Maximum diameter for circular filters: 60 mm																																				
<b>Mechanical</b>	Single-package design with carrying handle facilitates easy portability																																				
<b>Units</b>	cps, cpm, Bq, dps, dpm, Bq/cm <sup>2</sup>																																				
<b>Count time</b>	User-selectable between 1 and 9999 seconds																																				
<b>Preset count</b>	User-selectable between 1 and 65,500 counts																																				
<b>Background update</b>	User-selectable between 1 and 9999 seconds; used in subtraction of sample counts																																				
<b>Alarms</b>	Rate alarms, out of calibration, overload																																				
<b>Calibration</b>	Source test routine checks alpha/beta efficiency and crosstalk values. Efficiencies automatically computed based upon user-defined sources. Automatic decay correction of sources. Source tests are automatically prompted at user-defined intervals.																																				
<b>Power supply</b>	100–240 VAC, 47–63 Hz Charging indicators for internal NiMH battery. Rechargeable battery, 7.2 volts, 3.9 Amp Hr., 800 hours of operation between charges																																				
<b>Check Source</b>	Routine that permits quick verification and operability of system to user-defined acceptance criteria. All check source events are logged																																				
<b>Internal memory</b>	The last 4500 measured values are saved and can be read out via PC program. Logbook with 250 entries for changes of configuration and errors																																				
<b>Operating temperature</b>	-20° to +50° C, Storage temperature -25°C to + 50°C																																				
<b>Humidity</b>	10% to 95% at 35°C non-condensing																																				
<b>Degree of protection</b>	IP 32 according to EN 60 529																																				
<b>Audible</b>	Alarms, when the sample has completed its count, audible pulse (if enabled)																																				
<b>Size</b>	120 mm wide x 380 mm high x 304 mm deep																																				
<b>Weight</b>	4.1 kg (9.0 lbs)																																				
<b>Testing &amp; Certifications</b>	CE-Certified, Disturbance Emission: EN 61000-6-3, Immunity: EN 61000-6-2																																				

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