

Stack monitoring detector designed specifically for positron emitters (PET effluents).

FHT 3511

PET monitor

The FHT 3511 measures 511 keV annihilation photons to determine the concentration of positrons in the duct or stack

Extremely low coincidence background

Signal-to-back-ground ratio enhanced between 1 and 2 orders of magnitude (as compared to standard counting systems)

Detection limits well below 1 kBq/m³

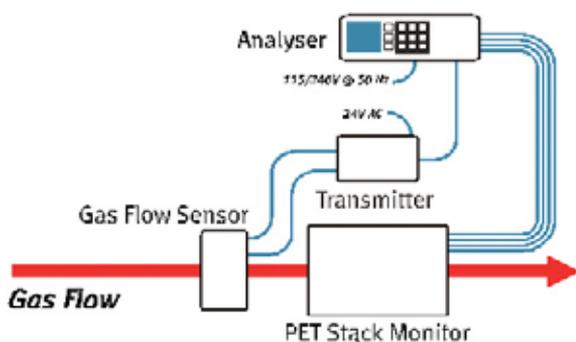
Total rejection of gammas from outside the active detection volume

No lead shielding necessary

Easy calibration using a point source (i.e. Ge-68) on the outer surface of the duct

Large scintillation detectors are mounted outside the stack

Versatile Windows™ based software for operation and report generation



With each radioactive decay, F-18 or other, PET-nuclide emits a positron which annihilates via the simultaneous emission of two 511 keV gamma quanta under 180°.

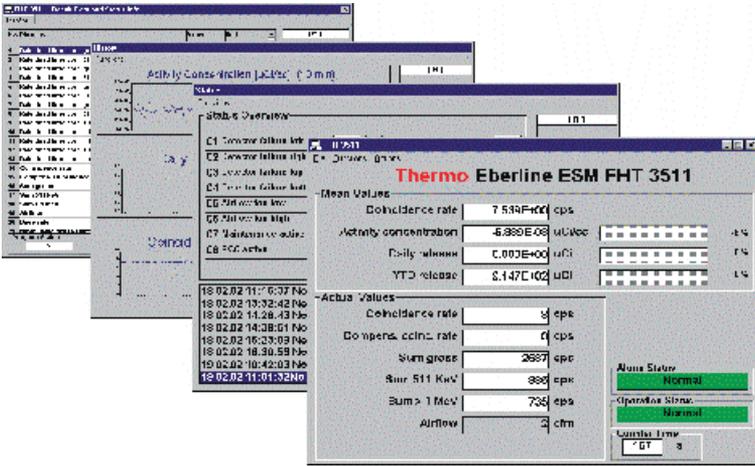
For PET nuclides, e.g. F-18 and other positron emitters, extremely low and very reliable detection limits are achieved using coincidence counting.

The measured coincidence count rate is directly proportional to the activity of PET nuclides within the volume surrounded by the detector array. By means of a fast coincidence circuit, the measured background due to stochastic coincidences is kept extremely low (typically < 10 cps).

Coincidence counting improves the signal-to-background ratio by one to two orders of magnitude as compared to gross gamma or positron measurements.

Depending on the number and size of the detectors used, detection limits well below 1 kBq/m³ can be achieved.

Advanced software package



On-line monitoring program FHT 3511

Graphic display of last 24 h/6 days

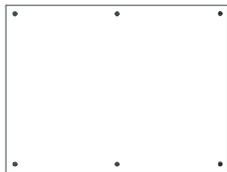
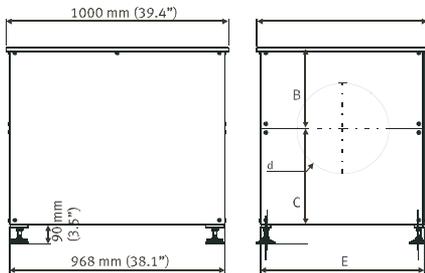
Immediate alarm generation

Optional DDE exchange with monitoring program

Optional data export to spread sheet program

Optional advanced long term data storage and display program "NetView"

FHT 3511 304 to 608 mm (12" to 24") Detector racks



Type	FHT3511	FHT3511 A	FHT3511 B	FHT3511 D
Duct Diameter	12"	16"	20"	24"
	304.8 mm	406.4 mm	508.0 mm	609.6 mm
Approx. Weight	250 kg (551.25 lbs.)	250 kg (551.25 lbs.)	280 kg (617.4 lbs.)	280 kg (617.4 lbs.)
Dimensions				
A	768 mm (30.2")	768 mm (30.2")	973 mm (38.3")	973 mm (38.3")
B	368 mm (14.5")	368 mm (14.5")	471 mm (18.5")	471 mm (18.5")
C	531 mm (20.9")	531 mm (20.9")	633 mm (25.0")	633 mm (25.0")
d	310 mm (12.2")	410 mm (16.1")	513 mm (20.2")	615 mm (24.2")
E	736 mm (29.0")	736 mm (29.0")	941 mm (37.0")	941 mm (37.0")

Sturdy aluminum frame

Stainless steel fittings

Corrosion free

Suitable for in- and outdoor applications

White, UV-stabilized PVC cover panels with increased impact strength

Variable height with easily adjustable feet

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