

The FHT 1372 Radioactivity Monitor is used as a stationary system for fully automatic monitoring of personnel airlocks or luggage belts for entrained radioactive sources.

FHT 1372

Radioactivity monitor for personnel, cars, bikers and baggage

- Very high gamma sensitivity
- Selective detection of artificial radioactivity
- No user operation necessary
- Automatic or manual alarm reset selectable
- No installation required
- Optional monitoring channel for thermal and fast neutrons
- Access to system configuration with a notebook or PC

Implementations:

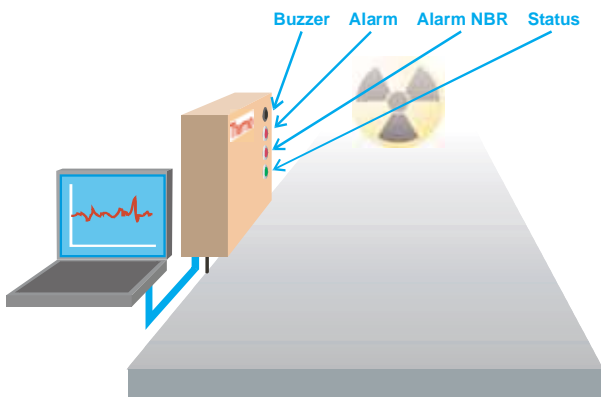
- Conveyor Belts
- Border Stations
- Indoor & Outdoor
- Airports
- Harbors



A highly sensitive scintillation detector, along with an ADF (Advanced Digital Filter), allows for extremely sensitive and rapid monitoring to take place. Regardless of the radioactive source's speed of travel, the optimum measuring mode is automatically set in each case. It is not necessary for the person or the object of measurement to stop in front of the monitor. Thus, the monitor can be operated unobtrusively without affecting the progress of the person or item of luggage.

Through use of the NBR process (NBR = Natural Background Rejection), developed by Thermo Fisher Scientific, it is possible to detect small amounts of artificial gamma radiation in the nSv/h range, even against a fluctuating natural background. Additionally an integral alarm level can be adjusted in order to detect an excessive total dose rate level.

If a radioactive source is detected an audible alarm is triggered. In addition, the alarm can trigger a relay which could transmit the alarm message to a remote alarm unit (horn, light, etc.). If the alarm is due to artificial radioactivity, the green LED will turn off and a red LED stay lit as long as the artificial gamma radiation is present. According to the user-selectable setup, the alarm can be cancelled automatically or may require the manual reset by a push-button built into the electronics of the FHT 6020, included with the FHT 1372 system.



Built-in Electronic FHT 6020

The management of count rates and alarm settings is done by a FHT 6020 electronic.

The key features of this FHT 6020 electronic are:

- Obtains data every second
- Displays and stores approximately 2000 data points
- Controls alarm values
- Communicates with detectors via RS485
- System parameters configured via a serial connection to a PC via a Windows™ based program
- Configuration program is password protected so only authorized operators may change system parameters
- Four integrated LEDs indicate the current system status
- Installed buzzer to indicate an alarm
- Displayed gamma dose rate unit can be set to Sievert (Sv/hr) or Roentgen (R/hr)



FHT 6020

Detection of fast and thermal neutrons

The optionally available probe FHT 752 SH offers the secure monitoring of thermal and fast neutrons. This probe shows an excellent separation between neutrons and gamma rays and is placed inside the FHT 1372 housing.

The FHT 752 SH is compliant to the ITRAP requirements for hand-held neutron detectors.



FHT 752 SH



Technical data

Dimensions of detector (effective detector volume):	standard: 220 x 220 x 100 mm (8.7" x 8.7" x 3.9") other dimensions available on request
Sensitivity:	approx. 20000 cps/(Sv/h) for Cs-137
Background:	typ. 800 cps
Energy range:	approx. 30 keV ... 1.5 MeV
Recommended temperature range:	0 °C to 40 °C (32 °F to 104 °F)
Rel. air humidity:	10% to 80%, without condensation
Protection:	IP 54
Supply voltage:	AC 100 -250 V, DC 10 - 30 V optional
Relay contacts:	
Voltage (max):	150 VDC / 125VAC
Current (max):	2 A
Breaking current (max):	35 W (DC) / 60 W (AC)
Housing dimensions:	approx. 680 x 440 x 280 mm (26.8 " x 17.3" x 11.0")
Weight:	17 kg (37.5 lbs.)



NBR = Natural Background Rejection

The NBR measurement method has been developed by Thermo Fisher Scientific, Erlangen (Germany) for extremely fast discrimination between natural and artificial gamma radiation. Worldwide more than 1000 devices, based on this technology, are in use.

NBR has a rapid response time. Artificial gamma radiation sources are identified in seconds by operators with basic training levels.

Unlike conventional spectroscopic based gamma identification systems, the systems using NBR do not require the presence and resolution of gamma spectral lines. Because of this flexibility, NBR can also definitively distinguish artificial high energy beta sources and heavily shielded gamma ray sources from fluctuating natural background sources.

©2007 Thermo Fisher Scientific Inc. All rights reserved. Kapton is a registered trademark of E.I. du Pont de Nemours and Company. All other trademarks are the property of Thermo Fisher Scientific Inc. and its subsidiaries. Results may vary under different operating conditions. Specifications, terms and pricing are subject to change. Not all products are available in all countries. Please consult your local sales representatives for details. Literature Code LITFHT1372 0407

Worldwide
Frauenauracher Strasse 96 +49 (0) 9131 909-0
D 91056 Erlangen, Germany +49 (0) 9131 909-205 fax

United Kingdom
Bath Road, Beenham, +44 (0) 118 971 2121
Reading RG7 5PR United Kingdom +44 (0) 118 971 2835 fax

United States +1 (508) 520-2815
27 Forge Parkway +1 (800) 274-4212 toll-free
Franklin, MA 02038 USA +1 (508) 428-3535 fax

www.thermo.com/rmp

Thermo
SCIENTIFIC