AT1322, AT1322/1 Whole Body Counters



Applications

Measurement of incorporated ^{131}I and ^{133}I radionuclide content in thyroid gland for individual dosimetric monitoring of internal exposure, taking into account age of target person

- Laboratory for internal exposure monitoring of nuclear power plants and other enterprises staff and citizens in the event of radionuclide ingress into human body
- Radiation diagnostic laboratories in health care facilities

AT1322 and AT1322/1 scintillation Whole Body Counters (WBC) are fixed instruments for measurement of ^{131}I and ^{133}I radionuclides content in human thyroid gland.

Operating principle

WBC operating principle is based on detection of gamma-radiation from ^{131}I and ^{133}I isotopes present in human thyroid gland by spectrometric detecting unit, and processing of instrument spectra on PC by dedicated software tools.



Joined version of AT1322 and AT1316/AT1316A

Features

- High examination rate: 3 minutes per person
- Automatic LED stabilization of WBC energy scale
- Flexible software control of WBC functions, generation of database and report based on measurement results
- Compact design
- USB Counter-to-PC connection
- Can be operated independently or together with AT1316/AT1316A, as well as part of mobile spectrometric laboratory

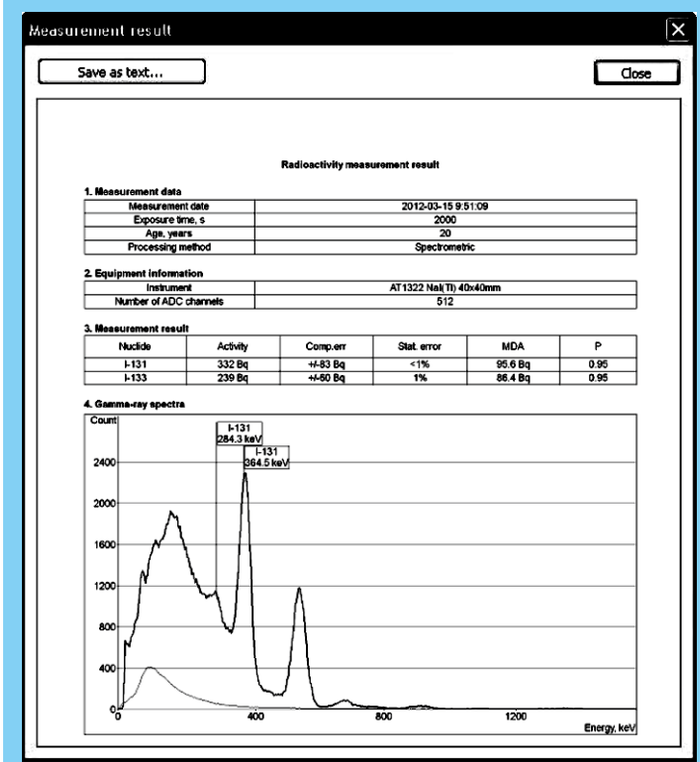
AT1322, AT1322/1 Whole Body Counters

Specification

Detector type	Scintillator,
AT1322	NaI(Tl) ø40x40 mm
AT1322/1	NaI(Tl) ø63x63 mm
Registered gamma radiation energy range	
AT1322, AT1322/1	50 keV – 1.5 MeV
Minimum measured activity of ^{131}I and ^{133}I in human thyroid gland for 3 min. measurement interval	
^{131}I (AT1322)	200 Bq
^{131}I (AT1322/1)	80 Bq
^{133}I (AT1322)	240 Bq
^{133}I (AT1322/1)	100 Bq
Radionuclides activity measurement range in human thyroid gland	
^{131}I (AT1322)	85 – 10^5 Bq
^{131}I (AT1322/1)	30 – 10^5 Bq
^{133}I (AT1322)	110 –10^5 Bq
^{133}I (AT1322/1)	40 – 10^5 Bq
Number of ADC channels	512
Integral nonlinearity	±1% max.
Typical resolution at 662 keV (^{137}Cs)	7.5%
Measurement instability during continuous service	±3% max.
Operation mode setup time	10 min
Continuous run time	24 h
Express-monitoring productivity	15 person/h
Working temperature range	+10°C to +35°C
Relative humidity with air temperature ≤30°C without condensation	≤75%
Power supply	110-230 VAC, 50-60 Hz
Power consumption	≤200 VA
Weight	70 kg

Design and specifications are subject to change without notice

Measurement result display



The whole body counter complies with:
Safety requirements of IEC 61010-1:2001,
EMC requirements of EN 55011:2009,
IEC 61000-4-2-2008, IEC 61000-4-4:2004,
IEC 61000-4-5:2005, IEC 61000-4-11:2004

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