

TIM

System for measuring internal contamination of thyroid



The TIM system is designed for the thyroid diagnostics and the therapy. TIM can assess the therapy activity, as well as the focal dose from an uptake. The system is intended for both an emergency and the routine screening measurements. It is capable of simultaneous monitoring of multiple patients by connecting several devices at the same time. The results and all the collected spectra are stored in one database.

Benefits

- Automatic spectrum stabilization
- Possibility to connect up to 20 units to the network and thus enable effective measurements of multiple patients
- Data collection from all connected devices into one database
- Automatic energy recalibration
- Activity assessment during the therapy can be recorded and stored

Key Figures

1-131 ↔ Calibration Standard

20 units ↔ Maximum number of devices connected to the network

3" NaI (TI) ↔ Scintillation detector size

Product Description

TIM consists of several measuring systems and a spectrometric software. It is an easy to use portable measuring device which became essential in a thyroid therapy. Since several units can be plugged in the system, it is crucial to identify treated patients. This function is provided by assigning chip cards or barcodes. One interface facilitates handling of the assessed and stored data.

Calibration is provided with MCNP software and verified by phantom of thyroid at SURO. Stabilization is provided optionally before the measurement process. The arbitrary source can be used and stabilization is configured in the INI file. The recommended source is Ba-133 because it has a similar peak as potassium and a long half-life time.

Main components:

- Portable measuring unit with an adjustable angle
- NaI (Tl) detector and MCA analyzer
- Tungsten shield, optionally collimator for the smallest children
- Chip card reader and barcode reader for patient identification
- Multi color LED lights to indicate status
- Communication and power supply via Ethernet (PoE 15V)
- Detachable stand



Product Specifications

Automatic spectrum stabilization	Yes
Control and calibration standards	1131, Cs137
Size of the NaI detector	3" NaI(Tl)
Energy resolution	< 6.9 % @ 662 keV
Energy range	50keV – 3.0 MeV
Channels	≥512 (up to 1024)
HV	0 - 1100V; precision: 1 V
Background	≤ 500 cpm
Measurement time	<=6 min per person on average (usually 2 mins. but can be extended)
Weight	approx. 6 kg

Control Software

The GAMWIN program is used to perform the analysis and possible further visualization of the measured spectra. Calibration is performed for I 131.

Product Application

Diagnostics and therapy of the thyroid.

