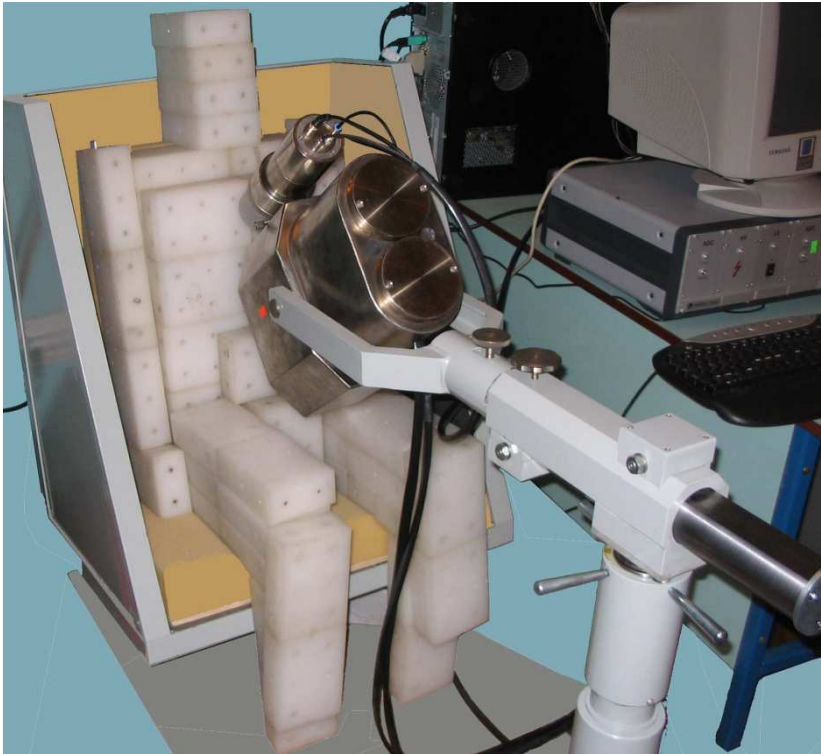


## UNIVERSAL PHANTOM UF-02T

### Purpose:

The universal phantom UF-02T is intended for calibration of Whole body spectrometers (for example of types SEG-01T, SEG-02T) and other means of activity measurements of incorporated radionuclides in the human body with scintillation and semiconductor detectors of gamma rays in the energy range from 50 to 3000 keV.



### Features:

The universal phantom is a collapsible design and comes in a set of components, which is presented in Table 1.

Table 1

Description	Quantity (pcs)
1 Polyethylene blocks of a type: - “solid” - “half”	90 40
2 Rod radionuclide sources of a type: - “nominal” - “half”	180* 80*
3 Connectors	280

4 Fixings	10
5 Rack	1
6 Mounting blade	2
7 Pusher	1
8 Pen-box	1*

Polyethylene block with two radionuclide sources mounted in it forms a modulus of the universal phantom, adequate on interaction with gamma-radiation to biological soft tissue of the human body, containing uniformly distributed radionuclide.

Assemblage of the phantom, made with radionuclide sources, forms a standard sample of activity of incorporated radionuclides uniformly distributed in the human body.

Standard sample reproduces the spatial-energy spectrum of gamma-radiation of incorporated radionuclides for transfer of activity size of radionuclides to Whole body by means of its calibration. Quality of transmission is ensured by:

- calibrated activity size of radionuclide sources, obtained directly from the primary reference;
- compliance of the geometric dimensions of the phantom with the anthropometric characteristics and the posture of the human body;
- adequacy of the phantom modulus to biological soft tissue on the interaction of gamma radiation with the substance in the energy range from 50 to 3000 keV.

Rod sources are made in the form of sealed radioactive sources, which eliminates the intake of radionuclides into the environment by transportation, storage and use.

Assemblage of polyethylene blocks not containing the radionuclide sources forms the background samples (**background phantoms**) of the appropriate size.

### **Operating conditions:**

Universal phantom is used for calibration of measuring instruments in the laboratory room at an ambient temperature of 10 to 35 ° C with relative humidity up to 80% at 25 ° C.