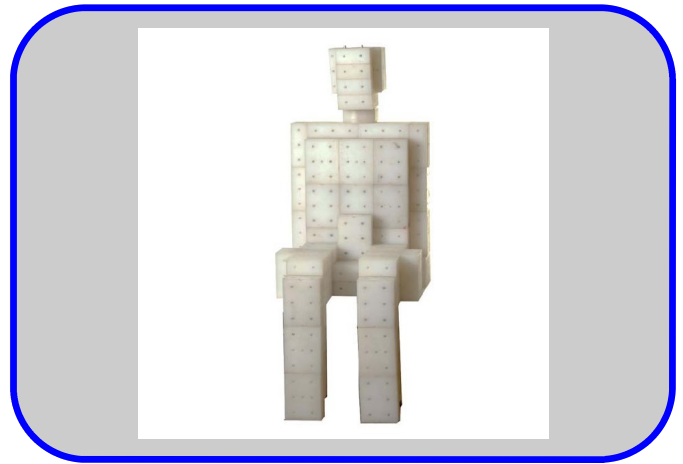


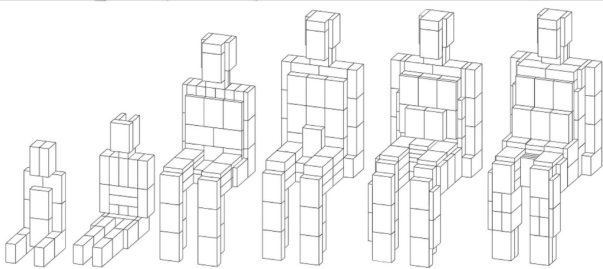
# Universal Body Phantom for Whole Body Monitoring

This Phantom is used for the calibration of whole body counters (WBC), and for measuring the activity of radionuclides incorporated in the human body with use of scintillation and semiconductor detectors of gamma-radiation in the energies range from 50 to 3000 keV. The Universal Whole Body Phantom is based on reference radionuclide sources and is tissue equivalent on interaction with gamma-radiation to biological soft tissue of the human body.



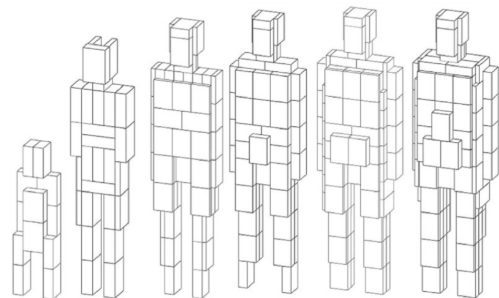
**The Universal Phantom is a collapsible construction and includes a set of components:**

- Polyethylene blocks of a type “full” (90pcs) and “half” (40pcs)
- Rod radionuclide sources of a type “nominal” (180pcs) and “half” (40pcs)
- Connectors (280pcs)
- Fixings (10pcs)
- Tripod (stand)
- Mounting blade
- Pusher
- Pen-box
- Chest



The Whole Body Phantom with radionuclide sources forms a reference sample of activity of incorporated radionuclides uniformly distributed in the human body. This reference sample reproduces the gamma-radiation spatial-energy spectrum of incorporated radionuclides to transfer the activity value of radionuclides to whole body spectrometers by means of its calibration.

Rod sources are made in the form of the sealed radioactive sources, which eliminates the intake of radionuclides into the environment by transportation, storage and use. Assembly of polyethylene blocks without the radionuclide sources forms the background samples (background phantoms) of the appropriate size.



Standard values of activity:

Am-241	
10kBq	
Ba-133	10kBq
Cs-137	10kBq
Co-60	100kBq
Eu-152	1000kBq

Type of the phantom (reference sample index of the set)	Age and anthropometric characteristics of human body			
	Age, years	Weight, kg	Height, cm	Average thickness, cm
F1	2	12	82.5	8.8
F2	6	24	121.0	10.9
F3	14	50	160.0	11.8
F4	≥18	70	170.5	14.3
F5	≥18	90	170.5	15.7
F6	≥18	110	170.5	19.4