

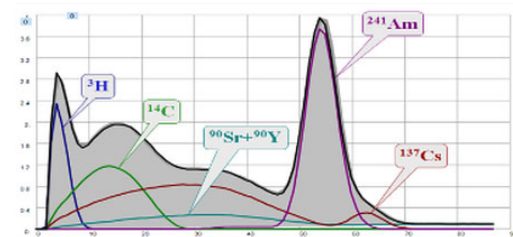
TRIEL

Liquid scintillation spectrometer

Liquid scintillation spectrometer TRIEL is a modern portable instrument for measuring the activity of beta and alpha - emitting radionuclides and their mixtures

FEATURES

- application the system of two PMTs and the coincidence scheme
- high registration efficiency and low background level
- 2 digital MCAs with the possibility of setting measurement parameters
- low power consumption and the possibility of power supply from the embedded battery
- the ability to connect a number of devices controlled by one software
- two variants of analytical software (*ASW3L* or *SpectraDec*) allowing to identify and measure complex radionuclide mixtures
- rapid processing in the automatic mode of spectra with small statistics and with a significant overlap in the energy spectra of constituent radionuclides
- availability of the measurement techniques for water and solid samples taken from natural and technological systems
- fast test (without radiochemical preparation) of the activity of α - and β -emitters
- monitoring of natural radionuclides (^{226}Ra , ^{228}Ra , ^{228}Th , ^{222}Rn , ^{210}Pb , ^{210}Po , ^{234}U , ^{238}U) and technogenic radionuclides (^3H , ^{14}C , ^{90}Sr , ^{89}Sr , ^{137}Cs , ^{241}Pu , ^{36}Cl , ^{129}I , ^{85}Kr , ^{99}Tc , Pu) in environmental objects at background levels
- monitoring of technogenic radionuclides in emissions and discharges of enterprises of the nuclear cycle (^3H , ^{85}Kr , ^{89}Sr , ^{90}Sr , ^{99}Tc , ^{129}I , ^{241}Pu ...), as well as in radioactive waste
- measurement of gross alpha and beta activity.



MAIN PARAMETERS

Number of channels in the spectrum:	1024, 2048, 4096
PC communication interface:	USB, RS-485, BlueTooth, Wi-Fi
Software:	ASW3L or SpectraDec
Quenching determination:	using an external standard, automatic



Metrology of ionizing radiation

TRIEL

Liquid scintillation spectrometer

METROLOGICAL CHARACTERISTICS

Energy range of registered alpha radiation, keV		from 2000 to 10000
Energy range of registered beta radiation, keV		from 1 to 4000
Range of activity measurement of alpha and beta emitting radionuclides, Bq		from 0.02 to $5 \cdot 10^4$
Energy resolution for energy 624 keV of radionuclide ^{137}Cs , %, not more than		15
Detection sensitivity to beta radiation of radionuclide, cps/Bq		
- radionuclide ^3H		0.4
- radionuclide ^{14}C		0.95
- radionuclide $^{90}\text{Sr}+^{90}\text{Y}$		0.98
Background intensity in energy range, cps		
for ^3H	(with an additional set of lead elements)	<0.3
	(with an additional lead chamber)	<0.1
Maximum throughput, cps, not less than		$5 \cdot 10^4$

TECHNICAL SPECIFICATIONS

Operating conditions:

- ambient temperature
- relative air humidity
- atmospheric pressure in the range

from +10°C to +40°C
up to (70±3) %
101±5 kPa

The spectrometer is powered from the AC power supply
with voltage, V / with frequency, Hz

220 (+10%;-15%) / 50 ± 5 %
5

Power consumption, W, not more

12V, 20 Ah

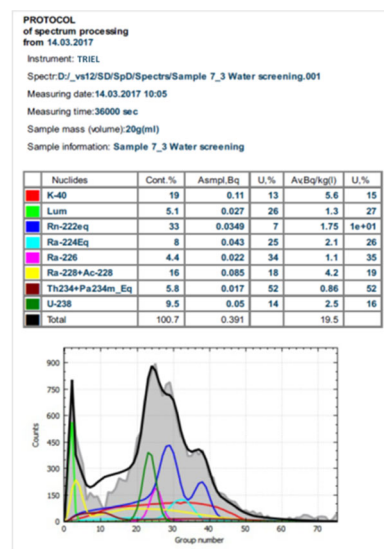
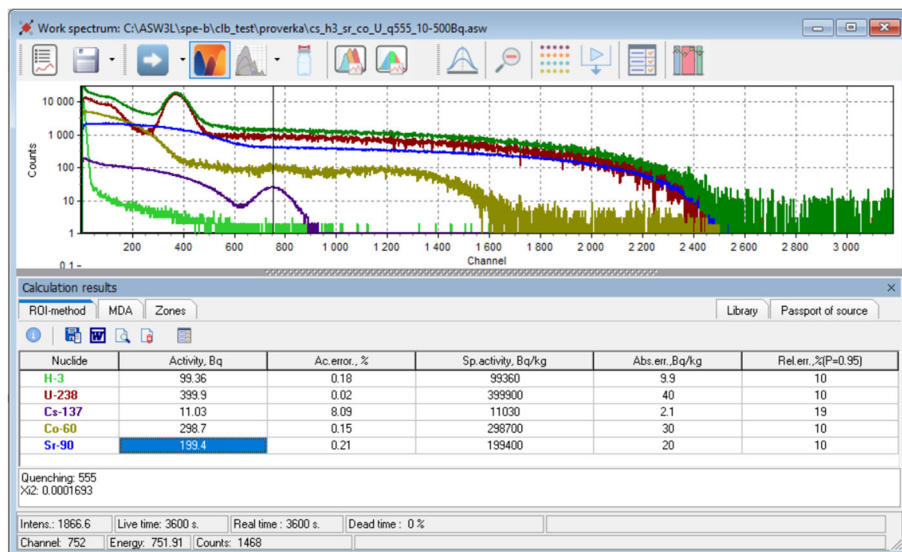
Battery is embedded (optionally)

223 x 218 x 473

Dimensions for standard version WxHxL, mm

45

Weight of standard version, kg



TALS Oy. FINLAND, Helsinki, 00160 Satamakatu 2

www.tals.eu E-mail and Skype: info@tals.eu

Tel: +358449411711