NUVIATECH INSTRUMENTS

SPECIFICATION SHEET

WIMP

SMEAR TEST COUNTER WITH PLASTIC SCINTILLATION DETECTORS

Tools, measuring devices or parts of installations that have been used in control areas where unsealed radioactive material is present must be checked for contamination before they leave the control area, for example, to be repaired or recycled. A smear test sample is taken to carry out this check in accordance with the German Radiation Protection Ordinance (§ 44 StrlSchV). Designed for smear test and air sample paper countin the WIMP makes an ideal instrument for contamination control for users of unsealed radioactive material.

Benefits

- Simultaneous, selective α and β/γ measurements
- For smear test samples and air sample filters up to 220 mm diameter
- The sample can remain on the smear test paper during measurement
- Adjustable functions: nuclide selec-tion, smear factor, detection surface, measuring time, alarm thresholds, measuring channel, etc.
- Easy to decontaminate
- Integrated calibration software

Key figures

Gas-free

Easy maintenance

<220mm

➥ *Smear test samples possible*

Ref. WIMP_2019_001_EN

The smear test counter is able to evaluate smear test samples (swabs, screening tests) or air sample filters with a diameter of 60 to 220 mm, measuring α- and β/γ-radiation separately. A major advantage of our WIMP smear test counters is the innovative thin layer plastic scintillation detectors with ZnS coating. This means no requirements for gas filled or gas flushed detectors.

Product description

- Thin-layer, ZnS-coated plastic scintillation detector with integrated photomultiplier and detector electronics
- Simultaneous, selective α and β/γ measurement
- Ergonomic measuring system design with large LC display (240 x 128 pixels), background illuminated (microcontroller version) or PC-based measuring electronics with external LC display
- Display of measurement results as count rate (cps) or activity (Bq, Bq/cm², Bq/m³)
- Calculation and display of detection limits
- Automatic background compensation
- Serial measurement function
- User-friendly interface, operation by means of function keys and touchscreen
- Database with reference nuclides, easily updated by the user
- Settings and measurement parameters are password protected
- Integrated, user-guided calibration software
- Measuring chamber with shielding; low-activity lead
- Easy-to-decontaminate, exchangeable drawer for sample planchets accommodating the smear test or air sample filter
- Easy-to-maintain system design, simple system opening
- The smear test counters can be calibrated using the activity or the surface emission rate of the test source

Software on PC and microcontroller basis

Our WIMP smear test counters are available in 2 versions:

- with microcontroller-based measuring electronics as stand-alone system with simple user interface.
- with PC-based measuring electronics. The PC-based version offers more comfortable options for documenting the measured data and for defining the default settings for measurement protocols.

The application-specific software features:

- Adjustable measuring functions (nuclide, smear factor, detection surface, measuring time, alarm thresholds ...)
- Freely definable measuring objects (containers, tools, FE containers ...)
- Free allocation of measurement results
- Calculation of detection limit
- Integrated auto-calibration
- Data storage

WIMP 120 PC

WIMP 120 µC

WIMP 60

for up to 60 mm filter diameter:

· WIMP 60 µC with microcontroller electronics
· WIMP 60 PC with PC-based measuring electronics
· WIMP 60 M as a mobile, portable smear test counter

WIMP 120

for up to 120 mm filter diameter:

· WIMP 120 µC with microcontroller electronics
· WIMP 120 PC with PC-based measuring electronics

WIMP 220

for up to 220 mm filter diameter or screening filter:

· WIMP 220 µC with microcontroller electronics
· WIMP 220 PC with PC-based measuring electronics

Multiple smear test counters

· WIMP 60 x 6 for up to 6 smear test samples simultaneously
· WIMP 60 x 8 for up to 8 smear test samples simultaneously
· WIMP 60 x 10 for up to 10 smear test samples simultaneously
· All systems for 60 mm filter diameter version
· Available with PC-based measuring electronicsPC

MAINTENANCE

The shielded smear test counter can be easily opened for maintenance and service. The drawer can be easily removed, for example, for decontamination. The detector foil can be replaced in no time.

Technical data of the smear test counters

Technical data	WIMP 60	WIMP 60 M	WIMP 120	WIMP 220	WIMP 60 x 6/8/10
Detector type	Thin-layer plastic scintillator with ZnS coating				
Integrated lead shielding	30 mm Pb	12.5 mm Pb	50 mm Pb	30 mm Pb	30 mm Pb each
Background (γ)	approx. 3 cps	approx. 2 cps	approx. 7 cps	approx. 15 cps	approx. 2 cps
Typical efficiencies					
Co-60	approx. 25 %	approx. 25 %	approx. 25 %	approx. 23 %	approx. 25 %
Cs-137	approx. 35 %	approx. 40 %	approx. 35 %	approx. 36 %	approx. 35 %
Sr90/Y90	approx. 43 %	approx. 42 %	approx. 45 %	approx. 42 %	approx. 43 %
Am-241(α)	approx. 24 %	approx. 24 %	approx. 20 %	approx. 20 %	approx. 24 %
Weight	approx. 30 kg	approx. 8 kg	approx. 85 kg	approx. 120 kg	approx. 180/250 kg
Dimensions in mm (W x H x D	290 x 280 x 320	255 x 145 x 220	410 x 350 x 385	500 x 400 x 450	850-1120 x 700 x 1120 (table incluse)
Temperature	+ 10° C to + 40° C	WIMP 60 M : - 20° C to +40° C			
Power supply	General: 100/240 V, 50-60 Hz, also with internal batteries