

WIMP SERIES

WIPE TEST COUNTERS WITH PLASTIC SCINTILLATION DETECTORS



Contamination measurements with wipe tests and aerosol filters are a central aspect of radiation protection procedures in nuclear facilities. The WIMP SERIES offers solutions for all the occurring challenges. The wipe-test counters can measure different sizes of smears and aerosol filters, perform mobile measurements in remote sites or achieve a high throughput while lowering the exposure of operators thanks to an automated measurement procedure. All devices use plastic-scintillation detectors, which completely eliminate the need for gas and offer a top performance.

Benefits

- Simultaneous, selective α and β/γ measurements
- Adjustable functions: nuclide selection, smear factor, detection surface, measuring time, alarm thresholds, measuring channel, etc.
- Easy to decontaminate
- Integrated calibration software
- No gas-filled or gas-flushed detectors
- Easy maintenance

Key figures

10 different models
1, 6, 10 or 100 samples
Up to 220 mm \varnothing Sample size

WIMP SERIES

The wipe test counters are 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 wipe-test counters is the innovative detector technology, which completely eliminates gas-filled detectors and the need for gas. Instead, we use thin-layer plastic-scintillation detectors with a ZnS-coating.

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 x128 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 (DIN ISO 11929)
- 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



WIMP 220 μ C

Software on PC and microcontroller basis

Our WIMP wipe 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, FEcontainers ...)
- Free allocation of measurement results
- Calculation of detection limit
- Integrated auto-calibration
- Data storage



WIMP 120 PC



WIMP 120 μ C



WIMP 60

For up to 60 mm filter diameter:

- WIMP 60 μ C 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 μ C 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 μ C with microcontroller electronics
- WIMP 220 PC with PC-based measuring electronics



NuWIMP 60-100 Automated wipe-test counter:

- Up to 100 probes can be measured automatically



Multiple wipe test counters

- WIMP 60 x 6 for up to 6 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 electronics

Maintenance

The shielded wipe 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 wipe test counters

Technical data	WIMP 60	WIMP 60 M	WIMP 120	WIMP 220	WIMP 60 x 6/10	NuWIMP 60-100
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	30 mm Pb each
Background ($\dot{\gamma}$)	approx. 3 cps	approx. 2 cps	approx. 7 cps	approx. 15 cps	approx. 2 cps	approx. 2 cps
Typical efficiencies						
Co-60	approx. 25 %	approx. 25 %	approx. 25 %	approx. 23 %	approx. 25 %	approx. 25 %
Cs-137	approx. 35 %	approx. 40 %	approx. 35 %	approx. 36 %	approx. 35 %	approx. 35 %
Sr90/Y90	approx. 43 %	approx. 42 %	approx. 45 %	approx. 42 %	approx. 43 %	approx. 43 %
Am-241(α)	approx. 24 %	approx. 24 %	approx. 20 %	approx. 20 %	approx. 24 %	approx. 24 %
Weight	approx. 30 kg	approx. 8 kg	approx. 85 kg	approx. 120 kg	approx. 180/250 kg	approx. 110 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	960 x 1270 x 610
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					