

Hidex 300 SL
2015

HIDEX



Hidex 300 SL
Automatic TDCR Liquid Scintillation
Counter
Sole Source Justification

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Hidex 300 SL system description

Hidex 300 SL is a new generation automatic counter with a small 52 cm footprint and low less than 180 kg weight making it easy to install at any laboratory. The 300 SL utilizes three PMTs aligned at 120° from each other. Optimum detection geometry yields in exceptionally high counting efficiency and counting of samples on triple mode without risk of background luminescence interference. Three PMTs enable also triple to double coincidence ratio counting TDCR, which is an absolute counting method for obtaining counting efficiency of the samples without external or internal standard sources. Unlike external standard methods, TDCR is a universal method applicable for both chemical and color quenching, for aqueous and organic samples and for different cocktails and range of isotopes. TDCR method can be used not only for counting of typical beta isotopes but also for absolute activity determination of Cerenkov radiation e.g. from Y-/Sr-90. For alpha/beta separation Hidex 300 SL uses two MCAs and a 2/3-Dimensional spectral tool for visual calibration and verification of the results. Measurement of e.g. Rn-222 or gross alpha/beta can be calibrated reliably using the unknown samples avoiding the laborious and unreliable misclassification procedures with pure beta and alpha emitters. The 300 SL is operated using an external PC and Windows 7 and 8 based MikroWin 300 SL software. It has an easy to use interface, unlimited number of protocol templates for different isotopes and easy data export to Excel or other programs. User can take advantage on extensive data reduction features including quench curve analysis and half-life correction. Sample organizer makes possible addition of new samples and edition of the measurement protocols and addition of priority samples while counting is in progress. Hidex 300 SL is available as standard and low level models with reduced background for low level applications. Special Metrology model facilitate most accurate detection of standard sources using TDCR method.

Hidex 300 SL unique features

The Hidex 300 SL is the only automatic scintillation counter available on the market today, which features:

1. TDCR counting for absolute activity counting of beta, electron capture and Cerenkov isotope without external or internal radioactive standard sources.
2. Weight less than 150 kg (standard unit) and less than 200 kg (super low level unit).
3. Width < 55 cm.
4. Counting eff. > 70 % for unquenched H-3, > 96 % for unquenched C-14 and > 35 % for H-3 in water.
5. Luminescence free counting mode.
6. Up to 4 energy regions (ROIs).
7. Graphical 2D calibration and validation tool for a/b separation.