



HIDEX 300 SL



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INTRODUCING THE HIDEX 300 SL

With more than 30 years of experience in design and manufacture of liquid scintillation counters Hidex introduces the 300 SL, an Automatic TDCR Liquid Scintillation Counter.

Dimensions

The 300 SL is a revolutionary instrument with a small footprint and can easily be integrated into small laboratories due to its outstanding dimensions of 52 cm width, 63 cm depth and 68 cm height. Even with its 4-pi 70 mm detector shield the gross weight is below 130 kg. The compact design and low weight of the instrument makes it a truly transportable system.

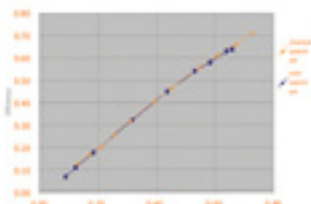


Optional features

The 300 SL boasts such optional features as alpha/beta separation, temperature control to stabilize measurement conditions and external standard for traditional quench determination.

NEW TECHNOLOGICAL INNOVATIONS

Unlike any other commercial liquid scintillation counter the Hidex 300 SL utilizes three photomultiplier tubes aligned at 120 degrees from each other. These three PMT's enable triple to double coincidence ratio counting-TDCR.



Graph 1. shows Triple to double coincidence ratios measured from both chemical and color quench series with H-3. Measured TDCR ratio corresponds excellently with efficiency of the sample.

Advantages

The greatest advantage of TDCR is the easy and straightforward method of obtaining counting efficiency of the samples without any external or internal standard source of radioactivity.

Three photomultipliers also facilitate Triple Coincidence Counting which is immune for problems created by chemiluminescence. It also reduces background caused by Potassium-40 in glass and is useful for low background counting of isotopes like C-14.

Optimal lead shield design with a minimum of 70 mm shielding in all directions provides good shielding and minimizes instrument weight

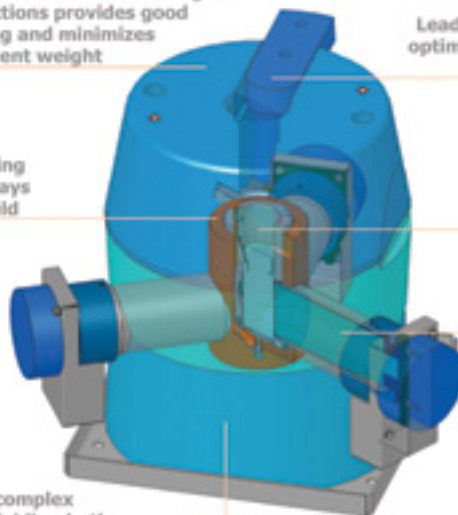
Lead shutter provides optimal shielding from cosmic radiation

Copper shielding eliminates x-rays from lead shield

Measurement chamber with high reflective opaque paint maximizes light collection

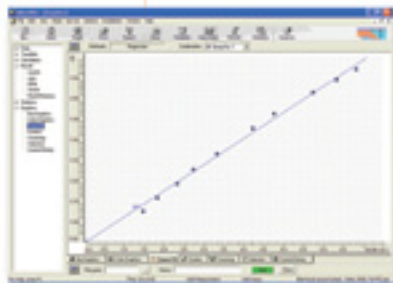
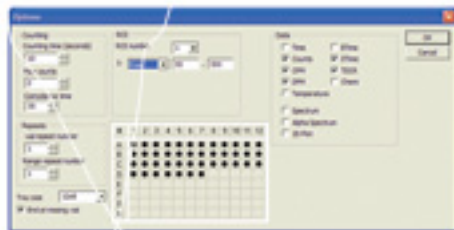
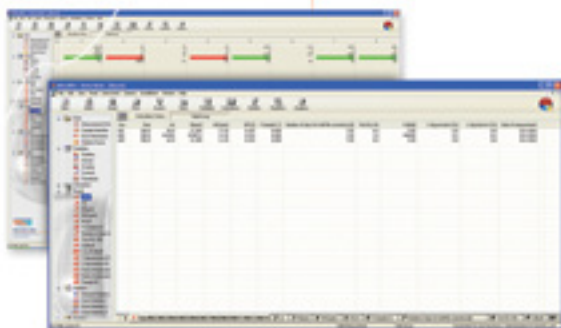
Robotic loading arm removes the need for a complex elevator mechanism. Shielding both on top and bottom of detector chamber provides biggest reduction of background effects

Three low background PMTs provide optimal measurement geometry and facilitate TDCR counting

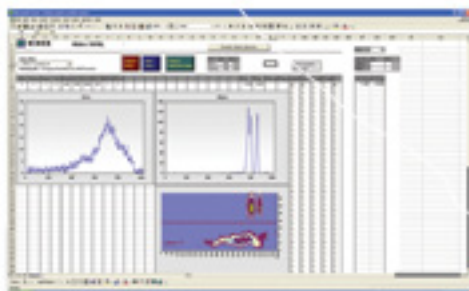


ADVANCED SOFTWARE

The Mikrowin 2000 software enables strong data analysis features such as automatic calculation of activity, precision and error of measurement, minimum detectable activity and many others. Results can be automatically printed, exported to other software such as Excel or integrated with LIMS database.



Extensive data analysis features, with predefined protocol libraries for different applications.



The Report Render spectral analysis software enables convenient and easy-to-use tools for optimising Figure of Merit, Analysing spectra and Background spectra subtraction. It also incorporates the useful two-dimensional alpha beta separation graph for validating alpha beta separation performance.

AUTOMATIC TDCR LIQUID SCINTILLATION COUNTER

Ease of use

The instrument is operated using a PC and MikroWin 2000 software. It has an easy to use interface, unlimited number of pre-stored isotopes and protocols and automatic data export to Excel™ or other programs. MikroWin 2000 has options for 21 CFR part 11 compliance and extensive data reduction features such as quench curve analysis, IC/EC 50 value calculations etc.



Flexibility

One of the unique features of the Hidex 300 SL is that the vials are placed on a sample tray. With matrix format of 8 by 12 totals 96 7 mL vials in one sample tray. Alternatively 5 by 8 matrix totaling 40 20 mL vials can be used. The trays can be used in sample preparation instruments such as liquid handling stations or cell harvesters.



300 SL AUTOMATIC TDCR LIQUID SCINTILLATION COUNTER

Technical data:

Width:	520 mm
Height:	680 mm
Depth:	630 mm
Weight:	125 kg
Electrical connections:	100-240V 50-60 Hz
Ports:	RS-232C, USB optional

Radiological Data:

Energy Range β 's:	0 – 2.000 keV
Energy Range α 's:	0 – 10.000 keV

Efficiency:	H-3 unquenched up to 73 %
	H-3 (8 mL water sample, 12 mL Aqualight) > 30 %
	C-14 unquenched up to 98%
	α 's (Po-210, U-234/U238, Am-241,Rn-222, Ra-226)>95%

E ² /B	300 SL std	300 SL LL
H-3 in water	70	93
H-3 unquenched, optimised window	180	350
C-14 unquenched, optimised window	420	800

Ordering information

Code No	Item
425-201	Automatic TDCR Liquid Scintillation Counter
Code No	Options
462-019	External standard
525-003	Alpha/Beta separation option
425-2001	Temperature Control
425-018	Low Level PM tubes
Code No	Software
426-110	MikroWin 2000 Full Data reduction/instrument control 21CFR part 11 software
426-110N	MikroWin 2000 net user license

