

HIDEX

ULLA



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## The ultimate ultra low level analyzer.

Hidex has served the liquid scintillation counting community for three decades. In recent years, the global market has been missing a true ultra low level LSC that would meet the most demanding needs. Applications in hydrogeology when mapping the global clean water resources, detection of biogenic carbon content in materials or measuring trace concentrations of alpha and beta isotopes in soil, food and drinking water require absolute accuracy and precision. True to our heritage of constant innovation we have developed our next state of the art counter to meet these requirements.



Hidex 300 SL



Hidex 600 SL



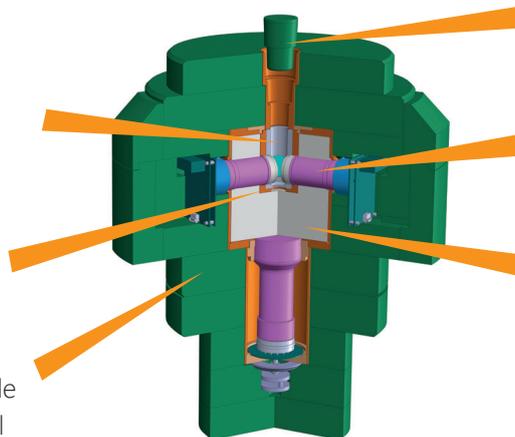
Hidex ULLA

Hidex ULLA combines existing technology, latest innovations and the modern usability.

Measurement chamber with highly reflective opaque paint maximises light collection.

Gas inlet for flushing the measurement chamber.

Extensive lead shield surrounding the detector and the guard provide optimal shield from environmental radiation.



Lead cap shields the detector during counting.

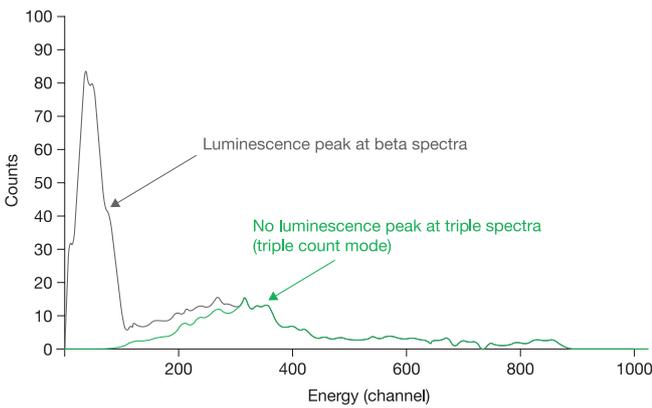
Three PMTs provide optimum measurement geometry and enable TDCR counting.

An active plastic scintillator guard, coupled to a PMT, surrounds the measurement chamber for effective background pulse detection and removal.

## Ultra low background and triple coincidence detector

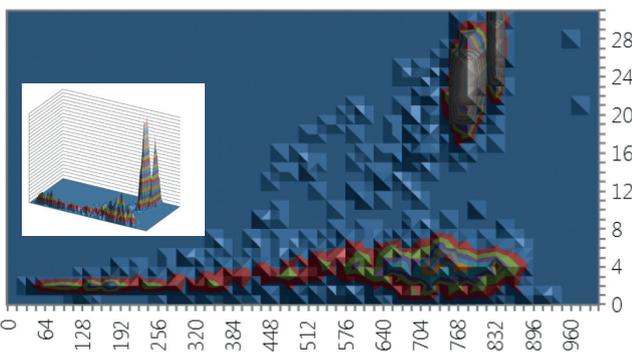
Low background is achieved with heavy passive lead shield and geometrically optimal active guard, which surrounds modern triple-PMT detector facilitating exceptionally high counting efficiency, luminescence free counting, and absolute activity counting by TDCR technique familiar from isotope metrology.

Vials are deionized prior to loading to remove static electricity. Cooling modules maintain the samples stable and in optimum temperature for highest counting efficiency, and detector can be flushed with nitrogen to remove Rn-222 gas often found in underground laboratories.



## Alpha/beta separation

Unique Hidex alpha beta separation electronics with 3D graphical AB-calibration tool facilitating reliable and sensitive detection of alpha isotopes in the presence of beta isotopes.



## Quench correction with TDCR

Default quench correction is done by TDCR method. External Eu-152 standard source is available as an option for conventional quench correction. Alternatively, it is possible to use QPC method, which uses natural cosmic radiation as the external radioactive source instead of built in gamma source.

## Digital Pb shield and Hidex biofuel method

Unique mathematical methods for Hidex TDCR counters. Digital Pb to decrease background uncertainty and biofuel method to find background count rate for samples when similar blank is not available.

Ideal for:

- H-3 in water.
- C-14 dating.
- Detection of biogenic carbon content in materials, such as fuels.
- Alpha and beta isotopes in soil, food and drinking water.



## Hidex VALO user software

VALO is a modern user-friendly software designed specifically for Hidex automatic LSC. The development was based on user feedback with special attention on usability – from building up the methods, to loading of samples, to evaluation of the results. The features include automatic reprocessing of data with new energy ROIs and a/b discriminator without remeasuring the samples.

## Ordering information and technical data

### Hidex ULLA

Sample capacity, 20/7/5 ml	80/192/192
Isotopes, typical examples	$^3\text{H}$ , $^{14}\text{C}$ , $^{90}\text{Sr}/^{90}\text{Y}$ , $^{226}\text{Ra}$ , $^{222}\text{Rn}$ , Gross a/b
Counting efficiency $^3\text{H}/^{14}\text{C}$ (%)	70/97 (unquenched) > 35 for $^3\text{H}$ in 8+12 ml $\text{H}_2\text{O}$
Background (CPM) *25 % $^3\text{H}$ ROI in 8+12 ml $\text{H}_2\text{O}$	< 1 CPM in normal surface lab condition
FOM $^3\text{H}$ in 8+12 ml $\text{H}_2\text{O}$	> 600 without optimization > 900 with optimization and DigitalPb
Dimensions, W/H/D (cm)	69/130/95 (with cooler)
Weight (kg)	~800

\*Performance values were measured at Hidex facility in Turku, Finland.



### Additional services



Cocktails



Sample preparation for LSC



Standards

### Helping scientific research and safety of everyday life

At Hidex scientific development is at the core of our values. We believe in the scientific advancement and continued improvement of our products. Our passion is to develop and optimise instrument sensitivity, streamline measuring operation and make usability as smooth as possible.



30 years on point.

### Contact Hidex

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