HIDEX

Hidex 600 OX Oxidizer

Oxidize your samples with confidence

With the Hidex 600 OX Oxidizer you will get a fully automated and controlled combustion process for your radiocarbon and tritium samples.

Introducing the Hidex 600 OX Oxidizer, a fully computer controlled automated catalytic combustion unit for all organic sample preparation. The system uses industrial standard logic and mass flow controllers for fully reliable sample combustion process.

Organic sample is combusted in high temperature of 900 °C and under oxygen stream into carbon dioxide and water vapor. The carbon dioxide is absorbed directly into the liquid scintillation cocktail and the vial is ready for instant ^{14}C liquid scintillation counting (LSC). In tritium application, water vapor is condensed into vial containing cocktail for tritium LSC measurement.

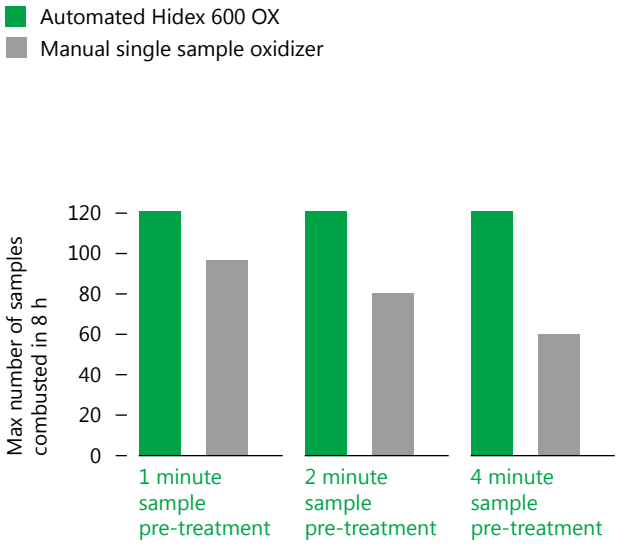
Up to six samples can be loaded in one go. Operator has walk away freedom and not tied up like older manual systems.

Ideal for variety of samples such as: soil, tissue, plant material, oil and concrete from nuclear decommissioning of power plants.

Sample boats are placed on high purity quartz ladles. Hidex 600 OX Oxidizer is compatible with both disposable and reusable sample boats.

Combusted samples are collected into scintillation vials automatically. Teflon nozzle seals the vial and cocktail is automatically aspirated into the vial. The samples are directly ready for liquid scintillation counting.

Hidex 600 OX Oxidizer Technical Features



Automated six samples combustion in one run for high capacity processing

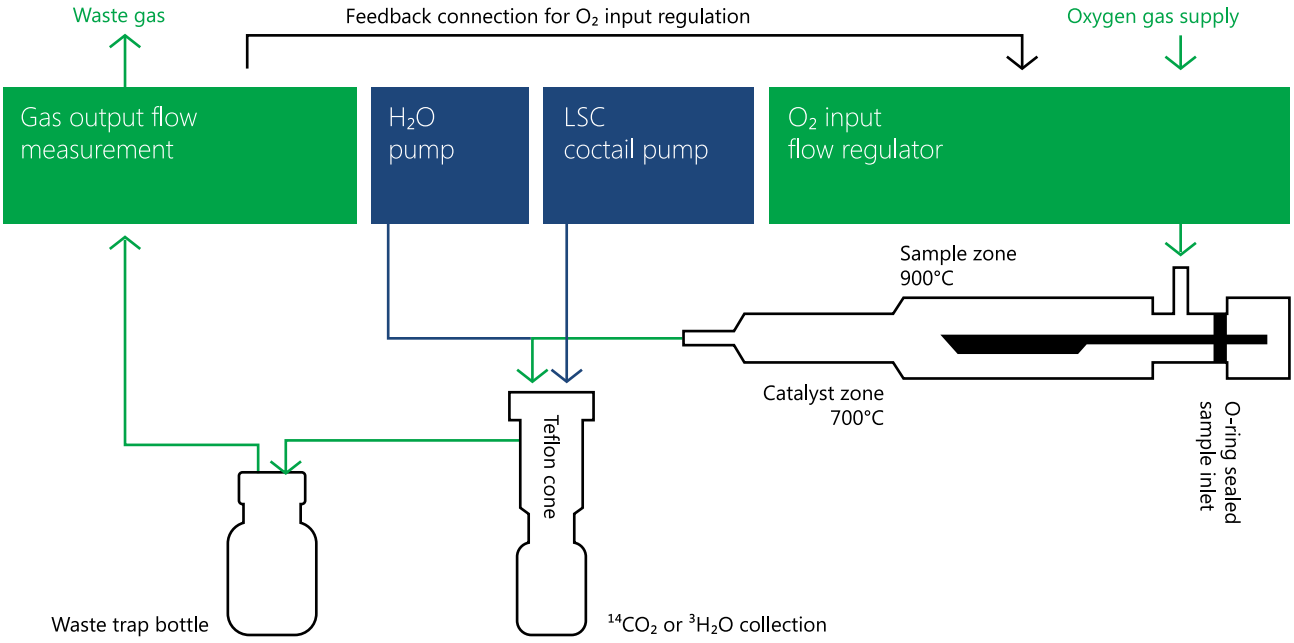
The automated 600 OX Oxidizer increases tremendously the maximum sample combustion capacity per one working day compared to manual single sample oxidizers. The capacity is increased because the sample pre-treatment such as tissue or plant slicing and weight measurement can be done during the automated combustion process. This is not possible with the single sample oxidizer where the user must remain with the instrument and load the samples one by one.

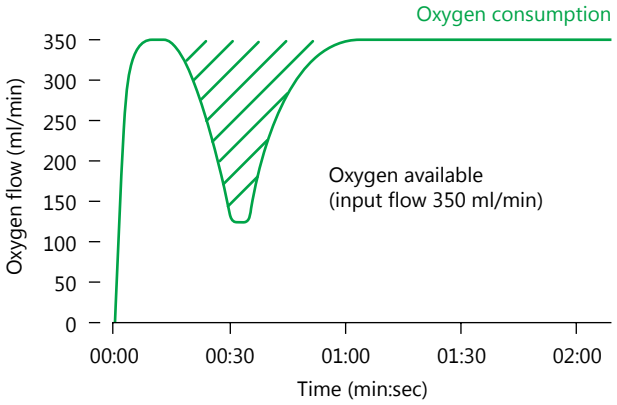
The figure illustrates maximum number of samples that can be combusted by one user with the 600 OX Oxidizer and manual single sample oxidizer in eight hours depending of the different sample pre-treatment time of 1) 1 minute, 2) 2 minutes or 3) 4 minutes per sample. The sample numbers are based on 3 minutes combustion time.

Sample type	Maximum amount				
Tissue	300 mg	Concrete	2000 mg	Fat	50 mg
Soil	1000 mg	Blood	500 mg	Paper	300 mg
Plant	1000 mg	Oil	200 µl	Feces	300 mg

Automated gas line leak test

Gas line leak test is performed automatically before every sample combustion for safe and high-performance operation. The leak test utilizes mass-flow meter based measurement and comparison of oxygen input flow and output flow at the end of the gas line.



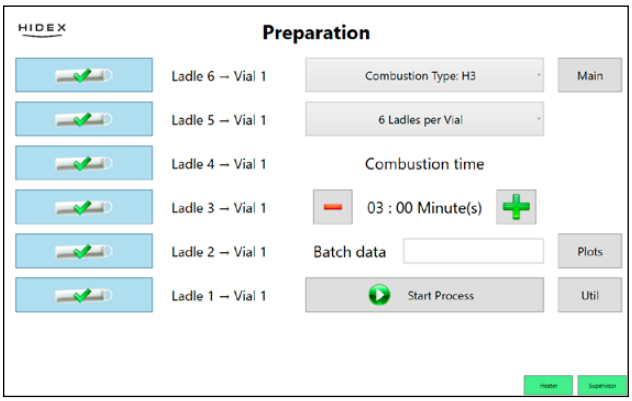


Oxygen input flow regulation

The 600 OX Oxidizer has oxygen input flow regulation system that improves combustion of high carbon content and rapidly burning samples requiring extra oxygen. The system creates a combustion curve that contains information of the oxygen amount consumed in the combustion and this data can be used for oxygen flow optimization.

User friendly software with easy access to the main settings

For basic use only three parameters are selected; combustion type: C-14 or H-3, number of samples and combustion time. In addition, the system has easy access to several additional settings such as combustion temperature, cocktail dosing volume and oxygen flow.



Several sample combustions collection into one vial

The system collects 1-6 sample combustions into one LSC vial. Collection of several radiocarbon or tritium samples into one vial is useful when low activity samples such as tritium from concrete is analyzed. This enables higher radioactivity level collection into one bottle which makes the LSC measurement more accurate.

Specifications Hidex 600 OX Oxidizer

Recovery (14C)*	99 %
Memory (14C)*	0.1 %
Recovery (3H)*	Over 90%, typical 95%
Memory (3H)*	Typical 1%

* The performance defined using Hidex 600 OX Radiocarbon or Tritium cocktail, cellulose chromatography paper and C-14 or H-3 standard solution

Dimension, W/H/D (cm):	90/60/60
Weight (kg):	85
Power Requirements:	210-230V, 10A or 110V, 30A

Gas Connections:	Oxygen: 2-5 bar Nitrogen: 2-5 bar Pressurized air: 5 bar Waste gas connections to exhaust air
Installation	Fume hood or local exhaust ventilation. Exhaust airflow 140 m3/h
Typical combustion temperature	900 °C in sample zone 700 °C in catalyst zone

TeamViewer remote control software for maintenance use

Related Products

Hidex 600 SL

Automatic TDCR LSC designed for high sample load capacity required in centralized laboratories.

Hidex 300 SL

The most advanced and compact LSC on the market, featuring absolute activity/DPM without external radioactive standards.

Hidex Sense Beta

High performance multimode microplate reader, featuring Liquid Scintillation, Beta and Gamma counting.

Hidex Automatic Gamma Counter

The compact design and superior user experience of our touch screen software makes it ideal for nuclear medicine applications.

Hidex is a family owned high technology company which develops and manufactures high performance analysis equipment for life science research, radiation measurement and nuclear medicine. Our products utilize modern technology and excellent tradition of workmanship. With strong links to the scientific community we continue to innovate and develop to improve scientific research and safety of everyday life.

Today more than 3000 Hidex precision instruments are at service in leading laboratories worldwide as well as in some of the hardest conditions on the planet. Jungles and deserts, oil platforms and ocean going vessels – even submarines are no challenge for Hidex instruments.

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