

Hidex 600 OX

Automated Oxidizer



HIDEX

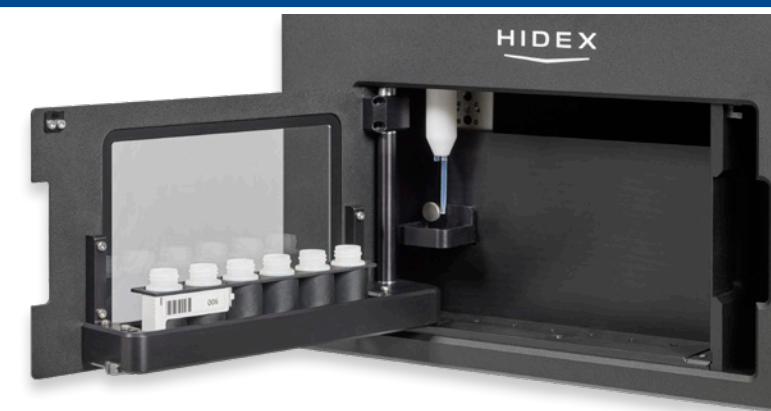
LabLogic

EXPERIENCE & EXPERTISE

Oxidize your samples with confidence.

The Hidex 600 OX Oxidizer is a fully computer controlled automated catalytic combustion unit for the preparation of organic samples, such as soil, concrete, faeces, tissue, cellulose, paint, adipose, crude oil blood, plant material, bones, and concrete from decommissioned nuclear power plants.

The system uses industrial standard logic and mass flow controllers to manage the sample combustion process. An organic sample is combusted into carbon dioxide and water vapor at a high temperature of 900°C. The carbon dioxide is absorbed directly into the liquid scintillation cocktail and the vial is ready for instant ¹⁴C liquid scintillation counting (LSC). In a tritium application, water vapor is condensed into a vial containing cocktail for tritium LSV measurement.



Sample Collection

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

User Safety

The user can specify a timed flow of cooling air past the ladles along with a specified time for the safety interlock on the ladle cover to protect the user from contact with the hot ladles following the oxidation process.

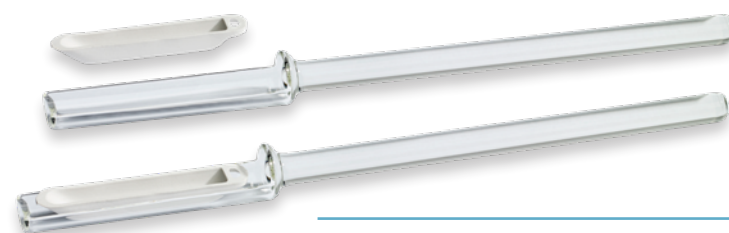
Sample Loading

Up to six samples can be loaded in one go. The operator is then free to walk away and allow the instrument to continue the process unlike older manual systems which require continuous operator interaction.



Sample Boats

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



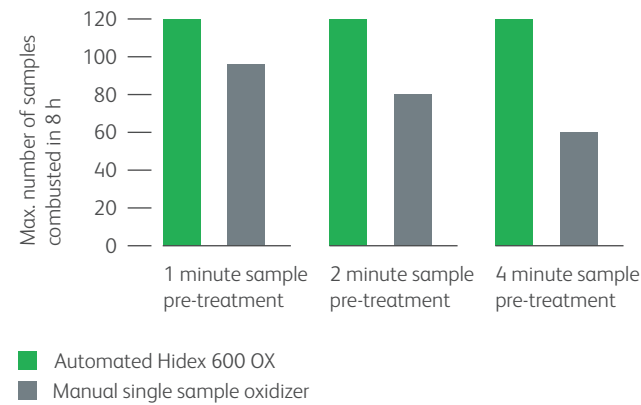
| Specifications | |
|---|--|
| Recovery (¹⁴ C)* | 99% |
| Memory (¹⁴ C)* | 0.1% |
| Recovery (³ H)* | Over 90%, typical 95% |
| Memory (³ H)* | Typical 1% |
| Dimensions | 35" (W) x 23" (H) x 23" (D) |
| Weight | 187 lbs |
| Power Requirements | 210-230V, 10A or 110V, 30A |
| Gas Connections | Oxygen: 2-5 bar, Nitrogen: 2-5 bar, Pressurised air: 5 bar Waste gas connections to exhaust air |
| Installation | Fume hood or local exhaust ventilation. Exhaust Airflow 140 m ³ /h |
| Typical Combustion Temperature | 900°C in sample zone. 700°C in catalyst zone |
| Team Viewer remote control software for maintenance use | |

*The performance defined using Hidex 600 OX Radiocarbon or Tritium cocktail, cellulose chromatography paper and ¹⁴C or ³H standard installation. Please refer to the Technical Specification Sheet for further information.

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 pre-treatment of a sample, such as tissue or plant slicing and weight measurement, can be done during the automated combustion process. This is not possible with a single sample oxidizer, where the user must remain by the instrument and load the samples one by one.

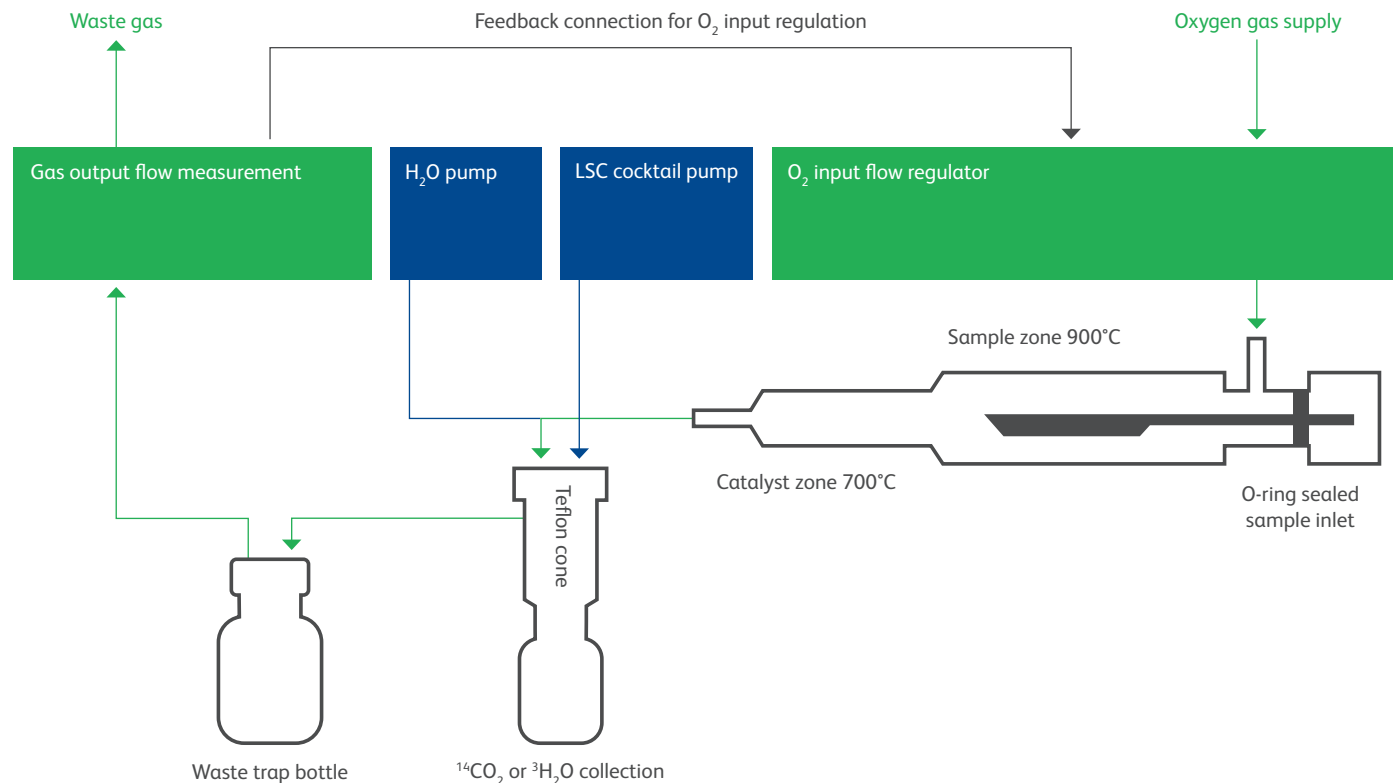
The figure illustrates the maximum number of samples that can be combusted by one user with the 600 OX Oxidizer and a manual single sample oxidizer in eight hours, depending on the different sample pre-treatment time of 1) 1 minute, 2) 2 minutes or 3) 4 minutes per sample. The sample numbers are based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



| Sample Type | Maximum Amount | Sample Type | Maximum Amount | 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 | Faeces | 300 mg |

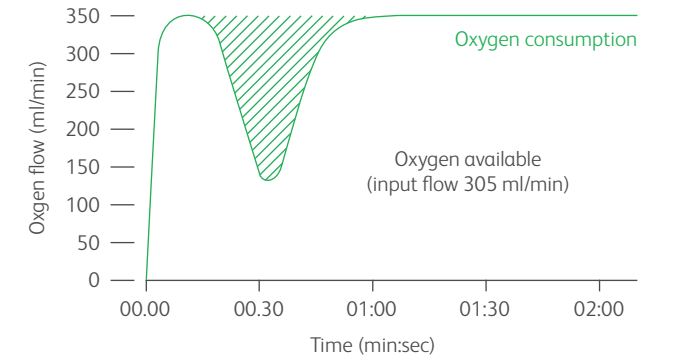
Automated gas line leak test

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



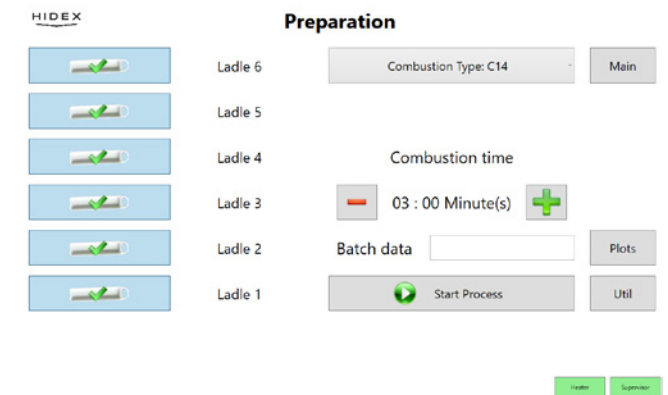
Oxygen input flow regulation

The 600 OX Oxidizer has an 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 containing information about the amount of oxygen consumed in the combustion process, allowing the data to be used for oxygen flow optimisation.



User friendly software with easy access to the main settings

For basic use only three parameters are selected; combustion type: ¹⁴C or ³H, 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.



Collection into one vial of several sample combustions

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 analysed. This enables higher radioactivity level collection into one bottle which makes the LSC measurement more accurate.



Service and Support

Users of our systems can benefit from our comprehensive, fully inclusive service and support.

We can give reassurance that if things go wrong or you need expert advice, help is only an e-mail or phone call away.



Validation Services

Our Validation Service enables you to implement and get maximum value from your investments as soon as possible.

We work as a partner with your Quality Manager, System Manager and users to provide a tailored Validation Plan, suited to your needs. Our Validation Specialists have years of experience in GLP system validation, detailed knowledge of our systems, together with other industry standard systems to help you meet company and regulatory requirements.



Training

LabLogic can provide a variety of training courses and workshops to help you get the most out of your instruments and software.

All training is performed by our expert Product and Support Specialists who have many years experience in the development and use of the instruments and software.

Certificates can be provided to complement your internal GLP training records.

Related Products

Hidex 300 SL

Liquid Scintillation Counter



Hidex 600 SL

Automatic TDCR Liquid Scintillation Counter



Hidex Triathler

Liquid Scintillation Counter and Gamma Counter



Hidex Sense

Multi-technology Microplate Reader



Hidex AMG

Automatic Gamma Counter



Hidex Q-ARE 100

Automated Radionuclide Extraction System



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