

# ECS 8020

## Organic Elemental Analyzer



**NC TECHNOLOGIES**  
Innovative Elemental  $\mu$ -Analysis



**ECS 8020 is the CHNS-O elemental analyzer based the Dumas combustion method**

**ECS 8020 is the improved version for the elemental analysis based on sample combustion and separation of gasses with a chromatographic column.**

**The combustion products, i.e. CO<sub>2</sub>, H<sub>2</sub>O, N<sub>2</sub> and SO<sub>2</sub>, are separated and quantified by a high resolution TCD detector.**

**ECS 8020 is fully automatic, from the available samplers to the oxygen dosage, from the monitoring of consumables status to the detection of chemical compounds.**

## Analytical and Technical Features

### ECS 8020 features

Type	CHNS-O	
Analysis time	CN	5 min
	CHN	8 min
	CHNS	13/25 min
	O	4 min
Analytical range	C	0.002-20 mg
	H	0.002-5 mg
	N	0.002-2 mg
	S	0.002-6 mg
	O	0.002-2 mg
	Accuracy	<0,3%
Precision	<0,3%	
Sampler	Pneumatic autosampler	147 positions
	Electronic autosampler	32, 50 100 positions
	Manual	-
Dual furnace system		
Safety quick fit system		
Touch screen display		
Stand-by mode		

### Physical specifications

Dimensions	81x50x37cm
Weight	68kg
Power supply	230V, 50/60Hz
Power absorption	5A, 1100Wh
Gas requirements	Helium (99.999% purity), 3-5 bar
	Oxygen (99.999% purity), 3-5 bar
	Air (oil free compressed air)



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## Analytical conditions

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Gas carrier	Helium
Leak test	Automatic leak test
Furnace temperature	Left furnace max 1100°C Right furnace max 1100°C
Oven temperature	Max 110°C
Oxygen volume need	Automatically calculated by the oxygen doser
Fluxes regulation	Electronic fluxes regulation
Gas separation	0.8-4 m GC column
Detector	High Sensitivity TCD
Software data analysis	EAS Clarity
Calibrations	Linear, Quadratic, cubic
Active calibration	As necessary

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## Sample

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Sample size	0,1-500 mg (depending on sample nature) up to 1000mg for soil samples
Sample type	Liquid Solid
Capsule	High purity tin and silver capsules

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## Accessories

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Kit	
Balance	
Consumables	Proprietary NC Technologies S.r.l.
Assistance by phone or email	within 24 hours

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## Approvals

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<b>AOAC Official Method 993.13</b>	<b>ISO 15178:2000</b>	<b>ISO 29541:2010</b>
<b>ISO 10694, 1995</b>	<b>ASTM Method D 5291 - 09</b>	<b>ISO 16948, 2015</b>
<b>ISO 13878, 1998</b>	<b>ASTM Method D 5373 - 02</b>	<b>EN 15407:2011</b>
<b>UNI EN 13654-2:2001</b>	<b>ASTM Method D 5622</b>	<b>ASTM Method D-1552</b>
<b>EPA Method 440.0, 1997</b>	<b>ASTM Method D 7633 - 13</b>	<b>ISO D 3176-09</b>
<b>EN 13137 (2001-12)</b>		

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<b>FIELDS OF APPLICATION</b>	<b>TYPE OF MATERIAL</b>	
<b>ORGANIC/INORGANIC CHEMISTRY AND PHARMACEUTICALS</b>	Fine chemicals	Explosives
	Pharmaceutical compounds	Catalysts
	Organo-metal compounds	Textiles
	Polymers	Pesticides
	Plastics	Detergents
	Synthetic Rubbers	Fluorine-compounds
<b>MATERIAL CHARACTERIZATION</b>	Fibers	
	Glue/Resins	Pigments & dyes
	Papers	Refractory materials
	Rubbers	Building materials
	Cement	Inorganic materials
	Ceramics	Metals
	Carbon/Glass fibers	Textile fibers
	Tires	Wood powders
<b>ENVIRONMENTAL ANALYSIS</b>	Soils, sediments and rocks	Water solution
	Composts	Waste water
	Wastes	Particulates in air by filters
	Sewage/sludge	Particulates in water by filters
	Pesticides	Woods
<b>AGRONOMY AND MARINE SCIENCE</b>	Soil	Plankton
	Plants(leaves, roots, fruit)	Particulate matter in water by filters
	Sediments	Water
	Humus	Fertilizer
	Algae	
<b>PETROCHEMISTRY AND ENERGY</b>	Coals	Petroleum derivates
	Coke	Lubricants
	Crude oils	Oil additives
	Gasoline/Diesel	Graphite
	Alternative fuels	
<b>HUMAN AND ANIMAL SAMPLES</b>	Blood	Serum
	Hairs	Urine
	Nails	Faeces
<b>ISOTOPE ANALYSIS</b>	Soil and plant research	Bio oceanography
	Forensic	Food and goods controls

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[www.thermalindo.com](http://www.thermalindo.com)

**PT. THERMALINDO SARANA LABORATORIA**

**Jakarta Head Office**

Jl. Panjang No. 3 & 3B  
Jakarta Barat 11530, Indonesia  
Phone. +62 21 5663057, 5664037, 5663969  
Fax : +62 21 5662795  
Email: sales@thermalindo.com

**Surabaya Branch Office**

Villa Bukit Mas RA-16 Jl. H. Abdul Wahab  
Siamin, Surabaya 60225, Indonesia  
Phone. +62 31 5674739, 5674740  
Fax : +62 31 5674743  
Email: sales\_east@thermalindo.com

**Medan Branch Office**

Rukan Citraland Bagya City Blok R 10/16  
Jl. Boulevard Barat Raya  
Medan 20371, Indonesia  
Phone : +62 812 6034 4050  
Email: sales\_medan@thermalindo.com

[www.thermalindo.com](http://www.thermalindo.com)