NC TECHNOLOGIES

Innovative Elemental µ-Analysis

8070 AIR CO2 CONCENTRATOR AND δ13C ANALYZER

8070 Air CO2 concentrator and δ13C analyzer

8070 Air CO2 is a CO2 concentrator and purifier for stable and radiogenic C isotopes analysis.

It is a state-of-the-art instrument for the separation and measurement of C stable and radio isotopes in atmospheric CO2.

This unit is based on the production of a high volume of pure CO2 (>10mg per sample)

The 8070 Air CO2 is coupled with a dedicated IRMS system for CO2 quantification, C stable isotopes analysis and an innovative benchtop 14C analyzer.

The instrument works on the adsorption/desorption principle with an innovative purification line that allows the elimination of water, VOC and NOx, leaving only pure CO2.

8070 CO2 comes with a lightweight portable and rechargeable unit for field sampling; no more need for sample bags/bottles.

Automated in-line analysis for both 13C and 14C

Air CO2 SERIES

8070 Air CO2 is composed by :

- ✓ **Dedicated CO2 oven, fast heating and cooling cycles**
- ✓ **Dedicated 24v high flow air pump**
- ✓ **Water, VOC and NOx high efficiency traps**
- ✓ **Portable, rechargeable and lightweight field sampler**
- ✓ **Dedicated for IRMS system and 14C analyzer**

The new 8070 Air CO2 is a powerful and useful instrument capable of capturing and separating relatively high amounts of CO2 per sample (10 to 100 mg) in a short time period (10 to 60 minutes).

Automatisms make 8070 Air CO2 particularly user-friendly: the automatic air pumping, adsorption and desorption systems make this instrument easy to use.

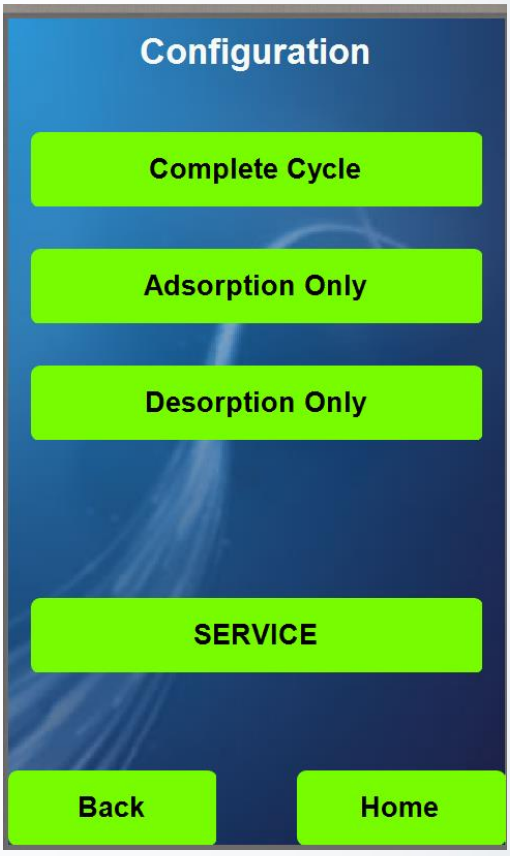
With the new C-Quantum CO2 adsorption system, a large amount of carbon dioxide can be treated with an automatic regeneration system – resulting in more precise results and greater performances compared to other systems.

The 8070 Air CO2 is particularly suitable for linking to other units and determine the isotopic ratios of carbon stable isotopes and radiogenic 14C.

Air CO2 SERIES

Automatisms make it particularly user friendly:
(for a better consumption of consumables)
Automatic consumables status monitoring
Automatic leak test

You can choose between 3 configurations, adsorption only, desorption only and a complete adsorption/desorption cycle depending on your needs.

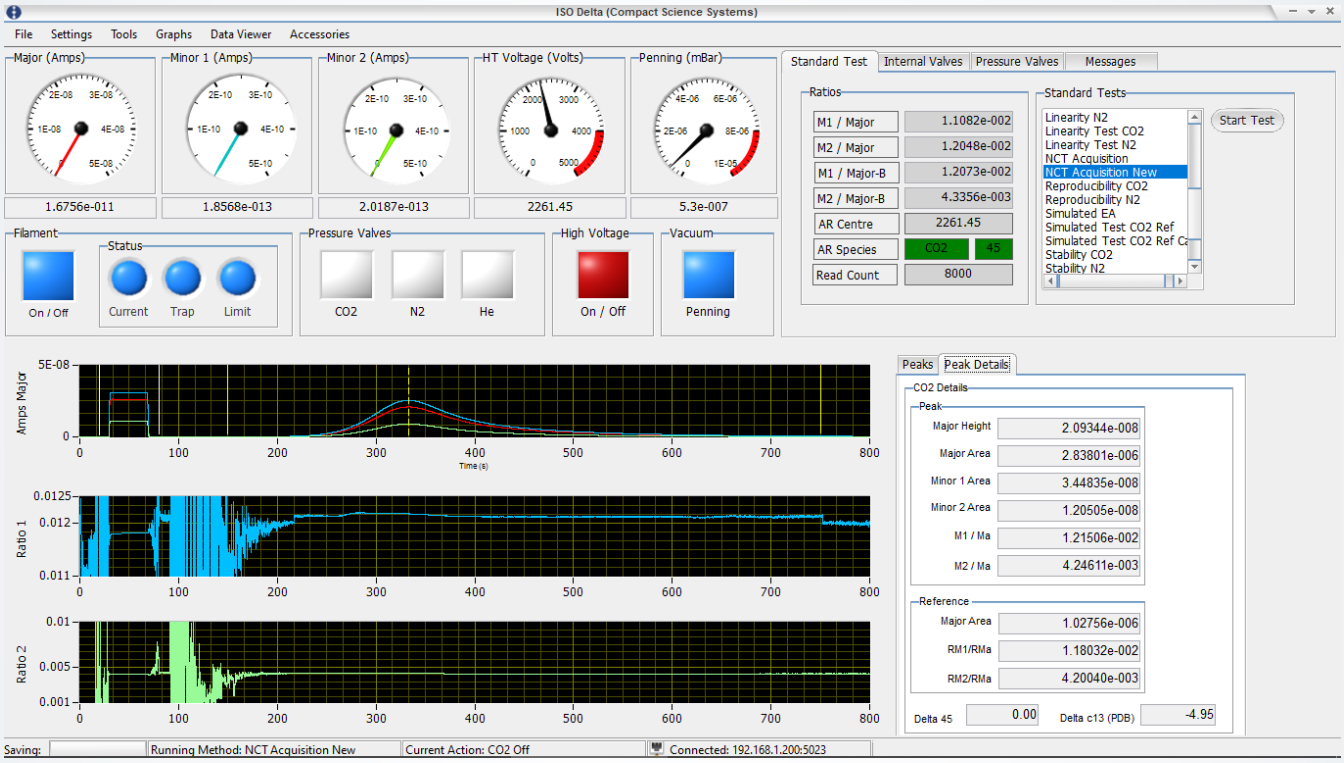


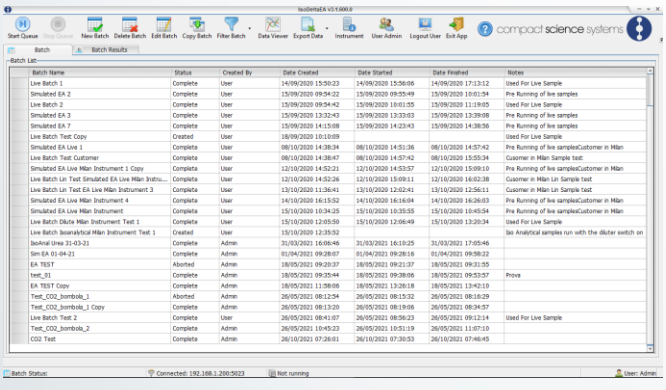
User can set all the instrument parameters including Traps temperatures, carrier gas pressure and desorption time.

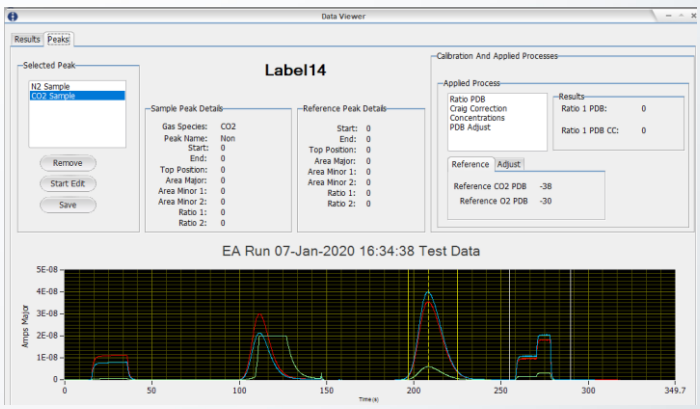
Air CO2 SERIES

8070/IRMS software

Powerful and user friendly software: intuitive real time graphs and easy data output







8070 Air CO2 δ13C and 14C

NC TECHNOLOGIES
Innovative Elemental µ-Analysis

Air CO2-PSM

Revolutionary field sampler:

allows any operator to collect pure CO2 samples directly on site with no need of sample bags/bottles. This unit is compact, lightweight and rechargeable.

- High flow pump for fast sampling
- Rechargeable battery, up to 20 samples per charge
- Fast charging, 1,5h for a complete charge
- Fast & easy sample tube change
- Easy traps replacement
- Portable: 14x16x40 cm, easy to carry on field
- Lightweight: only 3kg ready to use

What the user can do

Summary result tables
Display and print selected results from all simultaneously displayed analyses.

User settings
Select parameters for peak display and the specification for axes, peak integrations and reference settings

Export
Optional exportation of all results in various formats, into a file or clipboard.

Special features

Method and calibration history
Tailored made methods for any user needs.

.

Language localization available
Basic version in English language.

Air CO2 SERIES

Air CO2 8070 key points

- ✓ Fully automated analysis system
- ✓ High sensitivity, accuracy and precision
- ✓ Application flexibility and versatility
- ✓ C-Quantum adsorption and desorption system
- ✓ Powerful software for results visualization from PC
- ✓ Touch-screen display for an easy settings management
- ✓ Consumables status monitoring for an optimization of catalysts usage
- ✓ Field sampler: compact, lightweight and rechargeable
- ✓ Easy connection to Mass Spectrometers and other detectors for carbon stable isotopes analysis
- ✓ Low operation and management costs

8070 Air CO2 δ13C and 14C

NC TECHNOLOGIES
Innovative Elemental µ-Analysis

Air CO2 SERIES

8070 Air CO2 application fields

- ✓ Air pollution monitoring
- ✓ Volcanic activity monitoring
- ✓ Environmental analysis
- ✓ Climatology

8070 Air CO2 δ13C and 14C

NC TECHNOLOGIES
Innovative Elemental µ-Analysis

Analytical and Technical Features

Air CO2 8070 Features

Type	C isotopes	
Analysis time	10 min (sampling) and 10 min (δ13C analysis) or 1h (14C)	
Accuracy*	<0,1% (certified standard; purity >99.9%)	
Precision*	<0,1% (certified standard; purity >99.9%)	
Sampler	Integrated air pump Field, rechargeable sampler	

Dual furnace system
Safety quick fit system
Touch screen display
Standby mode

* Accuracy and precision are related to samples nature and homogeneity .

Physical Specifications

Dimensions:	Main Unit	80x50x37 cm
	IRMS	72x46x31 cm
	Field sampler	14x16x40 cm
Weight:	Main Unit	50 kg
	IRMS	50 kg
	Field Sampler	3 kg
Power supply		230V, 50/60Hz
Adsorbed power		5°, 1100W
Gas requirements		Helium (99.999% purity), 3-5 bar CO2 (99,999% purity), 3-5 bar

Analytical and Technical Features

Analytical Conditions

Gas carrier	Helium
Leak test	Automatic
Furnace temperature	Left Furnace : max 500°C RightFurnace : max 650°C
Flow rate	Electronic Flow Rate
Detector	IRMS
Software data analysis	ISO Delta
Calibration	Automatic
Active calibration	As needed

Sample

Sample size	10-100 mg (depending on necessity)
Sample type	Gas

Accessories

Consumables	Proprietary NC Technologies S.r.l.
Technical assistance	By phone or email within 24 hours

NC TECHNOLOGIES

Innovative Elemental µ-Analysis

Via Milano,15/A - 20060 Bussero (MI), Italy

Phone: +39 02 950 34 69

www.nctechnologies.it