



NC TECHNOLOGIES

Innovative Elemental μ -Analysis

**8070 AIR CO₂ CONCENTRATOR
AND $\delta^{13}\text{C}$ ANALYZER**

Air CO₂ SERIES

8070 Air CO₂ concentrator and $\delta^{13}\text{C}$ 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 NO_x, 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 NO_x 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

Automatism 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.

Desorption Parameters

CO2 Trap 0 °C

Cu 0 °C

pHe 000 Bar

pHe: 000

Desorption Time 0 min

1 2 3 4 5 Backsp

6 7 8 9 0

Cancel Enter

Back Home

Configuration

Complete Cycle

Adsorption Only

Desorption Only

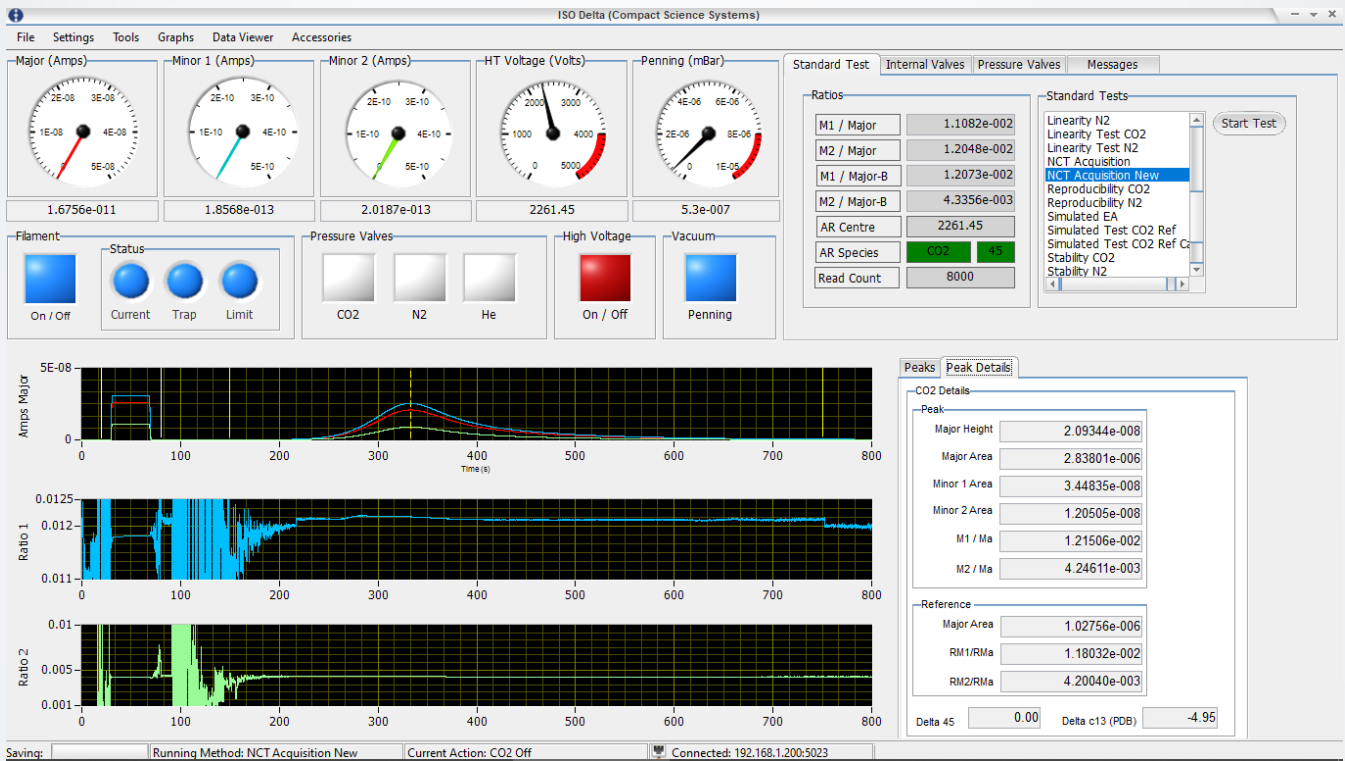
SERVICE

Back Home

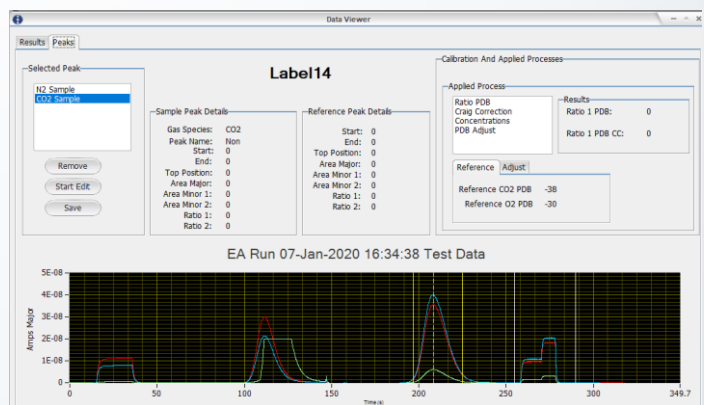
User can set all the instrument parameters including Traps temperatures, carrier gas pressure and desorption time.

8070/IRMS software

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



Batch Name	Status	Created By	Date Created	Date Started	Date Finished	Notes
Live Batch 1	Complete	User	14/09/2020 15:50:23	14/09/2020 15:50:06	14/09/2020 17:13:12	Used For Live Sample
Simulated EA 2	Complete	User	15/09/2020 09:54:42	15/09/2020 09:55:49	15/09/2020 10:01:04	Pre Running of live samples
Live Batch 2	Complete	User	15/09/2020 09:54:42	15/09/2020 10:01:05	15/09/2020 11:23:00	Used For Live Sample
Simulated EA 3	Complete	User	15/09/2020 13:32:43	15/09/2020 13:33:03	15/09/2020 13:38:08	Pre Running of live samples
Simulated EA 7	Complete	User	15/09/2020 14:15:08	15/09/2020 14:23:43	15/09/2020 14:38:06	Pre Running of live samples
Live Batch Test Copy	Created	User	18/09/2020 10:10:09			Used For Live Sample
Simulated EA Live 1	Complete	User	08/10/2020 14:38:34	08/10/2020 14:51:36	08/10/2020 14:57:42	Pre Running of live sample/Customer in Milan
Live Batch Test Customer	Complete	User	08/10/2020 14:38:47	08/10/2020 14:57:42	08/10/2020 15:00:34	Customer in Milan Sample test
Simulated EA Live Meter Instrument 1 Copy	Complete	User	12/10/2020 14:52:21	12/10/2020 14:53:27	12/10/2020 15:09:10	Pre Running of live sample/Customer in Milan
Live Batch Live Test Simulated EA Live Meter Instrument 1	Complete	User	12/10/2020 14:52:26	12/10/2020 15:09:11	12/10/2020 16:03:38	Customer in Milan Live Sample test
Simulated EA Live Test EA Live Meter Instrument 3	Complete	User	13/10/2020 12:36:41	13/10/2020 12:02:24	13/10/2020 12:36:11	Customer in Milan Live Sample test
Simulated EA Live Meter Instrument 4	Complete	User	14/10/2020 16:15:52	14/10/2020 16:16:04	14/10/2020 16:26:03	Pre Running of live sample/Customer in Milan
Simulated EA Live Meter Instrument 5	Complete	User	15/10/2020 10:34:25	15/10/2020 10:35:55	15/10/2020 10:43:54	Pre Running of live sample/Customer in Milan
Live Batch Delta Meter Instrument Test 1	Complete	User	15/10/2020 12:05:50	15/10/2020 12:06:49	15/10/2020 13:20:34	Used For Live Sample
Live Batch Analytical Meter Instrument Test 1	Created	User	15/10/2020 13:35:52			Use Analytical sample test with the diluter switch on
Isolated User 31-03-21	Complete	Admin	31/03/2021 16:06:46	31/03/2021 16:10:25	31/03/2021 17:05:46	
Sim EA 01-04-21	Complete	Admin	01/04/2021 09:28:07	01/04/2021 09:28:16	01/04/2021 09:30:22	
EA TEST	Aborted	Admin	18/05/2021 09:20:07	18/05/2021 09:21:27	18/05/2021 09:25:30	
test_01	Complete	Admin	18/05/2021 09:35:44	18/05/2021 09:38:06	18/05/2021 09:53:57	Probe
EA TEST Copy	Complete	Admin	18/05/2021 11:28:06	18/05/2021 13:28:18	18/05/2021 13:42:10	
Test_CO2_Jumbok_1	Aborted	Admin	26/05/2021 08:12:04	26/05/2021 08:15:52	26/05/2021 08:28:29	
Test_CO2_Jumbok_1 Copy	Complete	Admin	26/05/2021 08:13:20	26/05/2021 08:19:06	26/05/2021 08:34:57	
Live Batch Test 2	Complete	Admin	26/05/2021 08:41:07	26/05/2021 08:56:23	26/05/2021 09:21:14	Used For Live Sample
Test_CO2_Jumbok_2	Complete	Admin	26/05/2021 10:45:23	26/05/2021 10:51:18	26/05/2021 11:07:10	
CO2 Test	Complete	Admin	26/10/2021 07:26:01	26/10/2021 07:30:53	26/10/2021 07:48:45	



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

Air CO₂ SERIES

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 $\delta^{13}C$ and ^{14}C

Air CO₂ SERIES

8070 Air CO₂ application fields

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



8070 Air CO₂ $\delta^{13}C$ and $14C$

Air CO₂ SERIES

Analytical and Technical Features

Air CO₂ 8070 Features

Type	C isotopes
Analysis time	10 min (sampling) and 10 min ($\delta^{13}\text{C}$ analysis) or 1h (^{14}C)
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 CO ₂ (99,999% purity), 3-5 bar

8070 Air CO₂ $\delta^{13}\text{C}$ and ^{14}C

Air CO₂ SERIES

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



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