CN 802

CN 802 Carbon / Nitrogen Analyzer

Highly Sensitive Combustion Analyzer for a wide range of applications from micro to macro sample weights.

CN 802 Carbon / Nitrogen Analyzer

Fast, versatile, and highly sensitive elemental analyzer for simultaneous Carbon (Total and TOC) and Nitrogen determination ranging from micro to macro sample weights. The CN 802 offers high performance on both solid and liquid samples, working in accordance with international standards such as AOAC, AACC, ASBC, ISO, DIN, IFFO, OIV, ASTM, EPA.

RAPID C/N DETERMINATION

The CN 802 performs analysis of both carbon and nitrogen in just 3-5 minutes. The quick start and sleeping mode ensure fast operation set up with possibility of leak test per zone.

FLEXIBLE

Fully automatic determination of TC, TOC, TIC, TN and Carbon/Nitrogen Ratio on both solid and liquid samples. Using dedicated accessories, it is possible to analyze liquid samples with high sensitivity and accuracy.

PRECISE

The HighSensIR Detector (Non-dispersive Infrared detector) and the LoGas™ TCD (Thermal Conductivity Detector) designed by VELP guarantee unmatched precision and unrivaled LOD.

EFFICIENT

The fully automatic and reliable combustion method of CN 802 together with DriStep™ water trap provide reduced cost-per-analysis. The 30-position disc autosampler expandable with an extra 3 discs ensures maximum productivity and uptime.

VERSATILE

The CN 802 works with solid, liquid and doughy samples of up to 1 gram. Seamless carrier gas selection between Helium and Argon without hardware changes and with no memory effect.

SMART & SAFE

The CN 802 is easy to use thanks to the user-friendly CNSoft™ software which is equipped with maximum safety control of the instrument. VELP Ermes cloud connection will deliver a new user experience and smart workflows.

TEMS™ Technology
Save Time, Energy, Money and Space.

CARBON AND NITROGEN DETECTORS

CARBON DETECTOR

HighSensIR - NON-DISPERSIVE INFRARED DETECTOR

- Selective detector reading only Carbon content
- Maintenance free
- High Accuracy and Precision
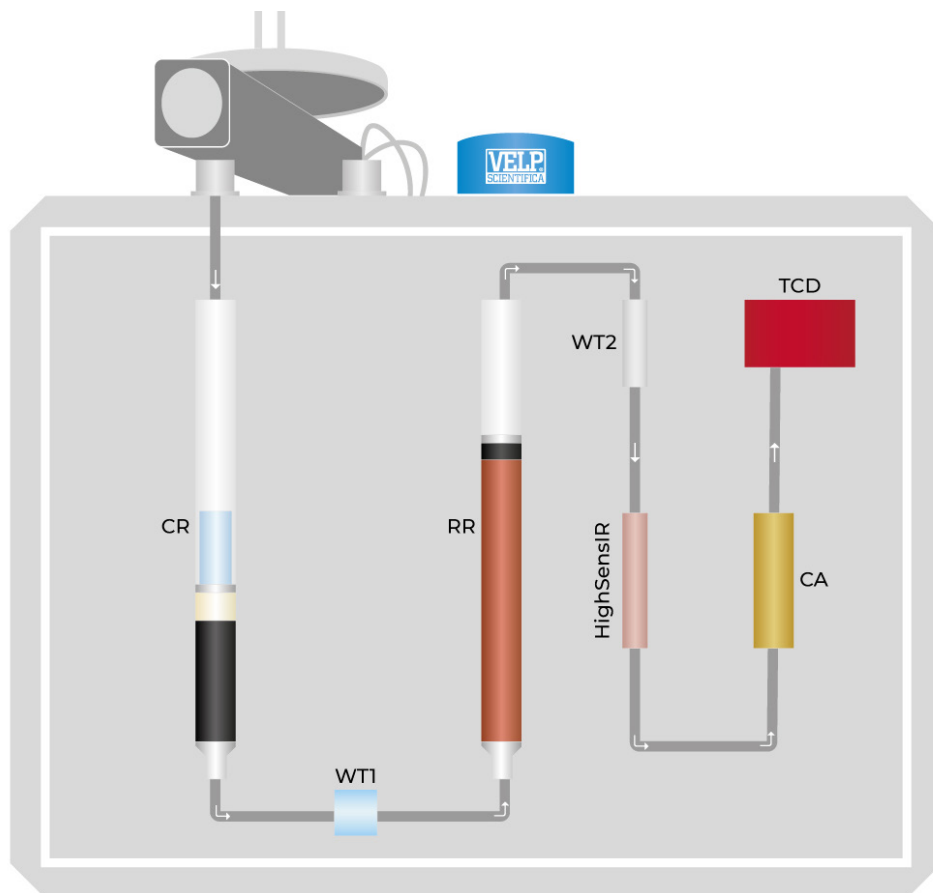- Measuring Range: ppm up to 150 mg abs. (or 100 %)

NITROGEN DETECTOR

TCD – THERMAL CONDUCTIVITY DETECTOR

- Low gas consumption
- No reference gas required
- Long life span
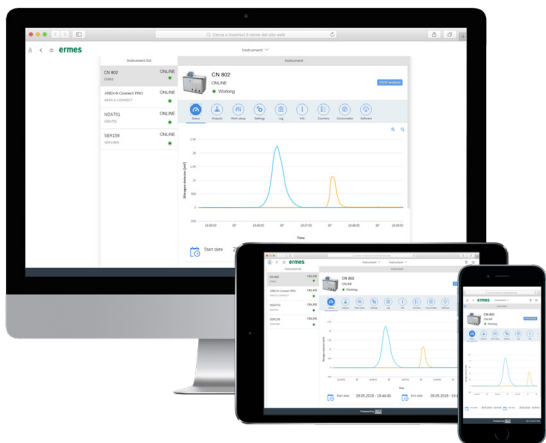- Measuring Range: ppm up to 200 mg abs. (or 100 %)

CN 802 Analysis Process

- **CR** — (Combustion Reactor) Allows complete combustion at 1100 °C to convert all the sample into its elemental substances.

- **WT1** — (Physical Water Trap) The maintenance-free DriStep™ cooler permits 99% of water to be removed.

- **RR** — (Reduction Reactor) Enables the elimination of unwanted compounds and oxygen, transforming NOx into N_2.

- **WT2** — (Chemical Water Trap) Eliminates the residual water.

- **HighSensIR** — (Non-Dispersive Infrared Detector) Accurately measures the CO_2 concentration that the instrument is able to convert in carbon quantity.

- **CA** — (CO_2 Adsorbers) Used to trap all the CO_2. Auto-regenerating, maintenance-free system.

- **TCD** — (Innovative TCD) LoGas™ determines nitrogen content without the need for a reference gas. Maintenance-free.
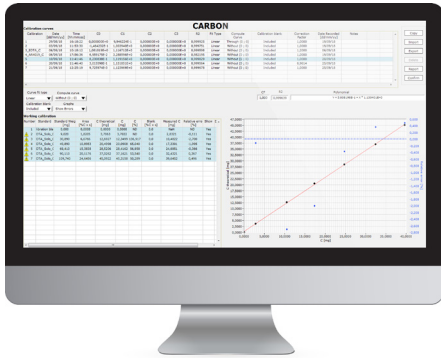
VELP ERMES CONNECTION

Connect the CN 802 to the exclusive VELP Ermes Cloud Platform to improve your laboratory experience. The VELP Ermes Cloud platform connection will unburden you from tedious tasks, improving your lab productivity.

- Real time monitor and control of the instrument from PC, smartphone and tablet whenever you want, wherever you are
- Immediate alert and notification with the possibility to stop the instrument for maximum safety
- Enhanced service and application support.
- Regular software updates will guarantee the best performance and new features with just one-click

ermes enabled

CNSoft™ Software

The CNSoft™ software is the powerful VELP solution that controls and operates the CN 802 analyzer. The CNSoft™ comes with a user-friendly interface that displays all relevant information at a glance: results, database and instrument conditions. It is possible to choose from a rich library of pre-installed methods and create customized ones.
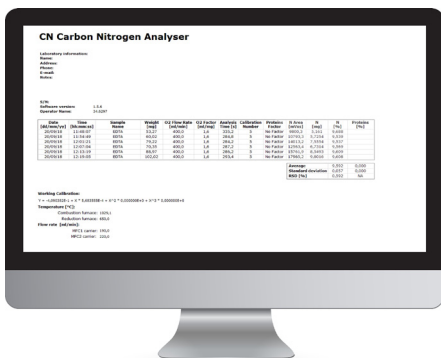

1 BEFORE THE ANALYSIS

- Create or choose a calibration curve for C and N
- Fill in the required data (sample name, analysis type, weight…)
- Select a method and calibration curve

2 DURING THE ANALYSIS

- Monitor of the working parameters
- Realtime graph of C and N peaks
- Immediate readout of the results in mg and % of C and N, % protein

3 AFTER THE ANALYSIS

- Multiple data comparison in graph
- Data export in .xls, .txt and .csv to PC or LIMS
- Crate, print and download reports of single or multiple analysis
- If necessary, set necessary set the instrument in Stand-by mode or Sleeping mode
- Short statistical analysis in one click

21 CFR Part 11 Compliance

The CN 802 Elemental Analyzer is fully compliant with FDA's Code of Federal Regulations Title 21 Part 11 that defines the requirements for using electronic records and electronic signatures on computerized systems.

- Track and record of settings and any changes to settings with the system log function running permanently, serving as an audit trail
- Track who performs any operation as analysis results are automatically signed with the user information. Each user has a unique identification and electronic signature
- Ensure the quality and incorruptibility of recorded data with backup procedures. Exported files are protected from unwanted or improper alteration
- Ensure the right delegation of responsibilities at the right level with the user management system with three access levels

OPTIONAL ACCESSORIES

1000 analyses kit	A00000194
2000 analyses kit	A00000270
4000 analyses kit	A00000271
Disc 2 for Autosampler	A00000199
Disc 3 for Autosampler	A00000200
Disc 4 for Autosampler	A00000201
Disc 1 for capsules for Autosampler	A00000390
Disc 2 for capsules for Autosampler	A00000420
Pre-packed combustion reactor	A00000158
Pre-packed reduction reactor	A00000226
Quartz reactor tube	A00000162
Metal reactor tube	A00000321
Cleaning kit for metallic ash collector	A00000353
Ceramic ash collector	A00000198
Metallic ash collector	A00000322
Quartz ash collector	A00000161
Anhydrone, 454g	A00000225
Super-Absorbent Powder, 10g	A00000317
Quartz wool, 50g	A00000154
Vcopper High Reduction Efficiency, 470g	A00000240
Copper oxide, 50g	A00000157
Velpcatalyst with inert layer, 36g	A00000320
EDTA Certified, 100 gr	A00000149
Rice Flour, 30g	A00000235
Tin Foil Cups, 150pcs	A00000153
Tin Foils 50x50mm, 450 pcs	A00000260
Mold for tin foils 50x50mm	A00000262
Tin foil cup closing device	A00000217
Tin capsules 6x18mm, 100 pcs	A00000482
Tin capsules 8x22mm, 100 pcs	A00000483
Manual dosing liquids samples kit	A00000486
Kit for TOC/sample preparation	TA00000378
Silver Foil 35x35mm, 100 pcs	A00000371
High temperature sealing grease	A00000236
IQ/OQ/PQ CN Manual	A00000370
VELP Ermes 1 Year Connection	E00010012
VELP Ermes 3 Year Connection	E00010036

INSTRUMENT - CODE

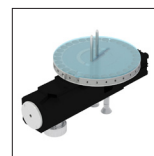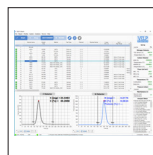| CN 802	230 V / 50-60 Hz	F30800090

SUPPLIED WITH

A00000193
Start-up kit

40001065
Autosampler
with disc 1

40002622
CNSoft™
Software

40001693
USB cable for
PC, 5m

10003926
RS232 Cable
for balance

E00010012
VELP Ermes
1 Year
Connection

The CN 802 is supplied with all necessary parts to perform up to 1000* analyses (inclusive of catalysts, copper, quartz wool, reagents and seals). In addition it contains chemicals and small consumables spares for maintenance.

Use Genuine VELP consumables and accessories to get the best performance from your CN 802

GLP Good Laboratory Practice

AOAC	AACC	ASBC
ISO	DIN	IFFO
OIV	ASTM	EPA

FIELDS OF APPLICATION

The CN 802 is extremely versatile, being suitable for carbon and nitrogen determination in several kinds of sample, in accordance with official AOAC, AACC, ASBC, ISO, ASTM, EPA, DIN and OIV methods.

AGRONOMY INDUSTRY

ENVIRONMENTAL INDUSTRY

CHEMICAL INDUSTRY

TECHNICAL DATA

	CN 802
METHOD OF ANALYSIS	Carbon/Nitrogen determination according to combustion method
ANALYSIS TIME	3/5 minutes
DETECTOR	N= TCD (Thermal Conductivity Detector) C= HighSensIR Detector (Non-Dispersive Infrared)
SAMPLE WEIGHT	Up to 1 g
AUTOSAMPLER TYPE	Electronic
AUTOSAMPLER CAPACITY	Up to 4 discs, 30 positions each (up to 117 samples)
REPRODUCIBILITY (RSD)	< 0.5% for EDTA standards approx. 100 mg
RECOVERY	> 99.5%
DETECTION RANGE	C: ppm up to 150 mg abs. (or 100 %) N: ppm up to 200 mg abs. (or 100 %)
COMBUSTION TEMPERATURE	1100 °C 2012 °F
CARRIER GAS	Helium or Argon (grade 5.0)
COMBUSTION GAS	Oxygen (grade 5.0)
CONNECTIVITY	Ermes Cloud Platform via Wi-Fi or LAN connected to a PC
21 CFR PART 11 COMPLIANCE	Yes, optional package available
INTERFACES	USB
OFFICIAL REFERENCES	ISO 10694; EN 16168; EN 15936; ISO 20236; AOAC 993.13; ISO 20620; ISO 13878; EN 13654-2, EPA Method 440.0, etc.
WEIGHT	54 kg 119 lb
DIMENSIONS (WXHXD)	655x510x410 mm (H 690 mm with autosampler) 25.8x20.1x16.1 in (H 27.0 in with autosampler)

SERVICE & SUPPORT

VELP Scientifica products are designed by our engineers to resist years of laboratory use.

Our products are manufactured with premium materials to guarantee the best performance with maximum safety.

According to our experience, a proper and regular maintenance is necessary to ensure the highest performance of analytical instrument. VELP Service Department and VELP Official Partners are always ready to offer you maintenance and service support tailored to your needs.

GET THE SUPPORT YOU NEED CHOOSING THE OPTIONS:

- Installation
- Preventive Maintenance
- Help-desk and Remote support
- Technical Assistance
- Analytical Support
- Calibration Certification

VELP Official Partner

DESIGNED AND MANUFACTURED IN ITALY

VELP SCIENTIFICA®

CE