NDA 702

Dumas Nitrogen Analyzer

Reliable and fully automatic elemental analyzer designed for fast Nitrogen and Protein determination.

velp®

Driven by curiosity

NDA 702
N/Protein Analyzer

The NDA 702 combustion elemental analyzer is a versatile, cloud-enabled and fully automated solution for nitrogen determination according to Dumas Method in a wide range of applications. The NDA 702 offers high performance on both solid and liquid samples, working in accordance to international standards such as AOAC, AACC, ASBC, ISO, IFFO, OIV.

Speed & Automation

- Rapid nitrogen/protein analysis in 3–4 minutes
- Fully automatic system with quick start and sleep modes
- Automatic leak test per zone for safe, fast setup
- Supports unattended, high-throughput operation

Precision & Safety

- Velp's exclusive LoGas™ TCD ensures outstanding precision
- Detects nitrogen down to a few ppm with low variability
- Advanced safety features automatically stop analysis on irregularities
- Remote alerts and emergency stop via Velp Ermes Cloud Platform

Versatile and Cost-effective

- Analyzes solid, liquid, and doughy samples up to 1 g
- Seamless switch between Helium and Argon without hardware changes
- Reliable combustion and DriStep™ water trap keep running costs low
- 30-position autosampler, expandable with 3 extra discs for maximum throughput

User-friendly and Connected

- Intuitive DUMASoft™ software requires no advanced training
- Remote access and monitoring via Velp Ermes Cloud Platform
- Streamlined workflows for simpler, safer, and smarter lab operation

N
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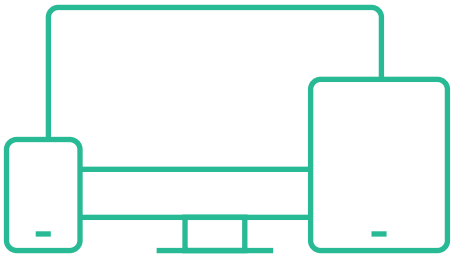
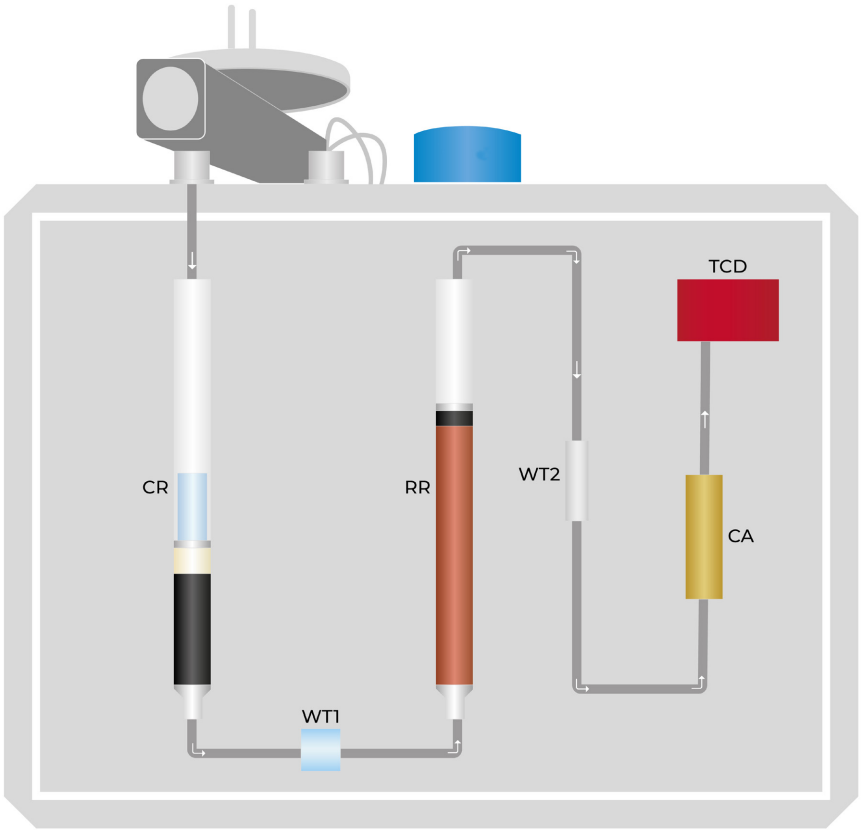
Velp Ermes Connection



Connect the NDA 702 Nitrogen Analyzer 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.

- Enhanced service support
- 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
- Regular software updates will guarantee the best performance and new features with just one-click

NDA 702
Analysis Process



- **CR** (Combustion Reactor) Allows complete combustion at 1030 °C in order to convert all of 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.
- **CA** (CO_2 Regenerating Adsorbers) Used to get rid of 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.

Fields of Application

The NDA 702 is extremely versatile, being suitable for nitrogen and protein determination in several kinds of sample, in accordance with official AOAC, AACC, ASBC, ISO and OIV methods.

Food, Feed & Beverage

Meat, Fish, Poultry, Cereals, Bakery products, Milk, Dairy, Oils, Fats, Brewery, Oils Seeds, Pet food

Pharmaceutical & Life science

Pharmaceutical products, Vaccines, Active ingredients

Environmental & Agro

Soils, Plants, Fertilizers, Waste, Wastewater, Water, Sludges, Sediments

Chemical & Petrochemical

Rubber, Plastic, Lubricants, Petroleum products, Coal fuels, Coke

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
Oat meal, 30g	A00000318
Tin Foil Cups, 150pcs	A00000153
Tin Foils 50x50mm, 450 pcs	A00000260
Tin capsules 6x18 mm, 100 pcs	A00000482
Tin capsules 8x22 mm, 100 pcs	A00000483
21 CFR part 11 package for Elemental Analyzers	A00000455
Mold for tin foils 50x50mm	A00000262
Tin foil cup closing device	A00000217
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

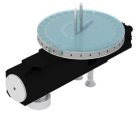
NDA 702	230 V / 50-60 Hz	**F30800090**

Supplied with

The Dumas Analyzer 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.

A00000193
Start-up kit

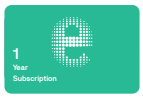
40001693
USB cable for PC, 5m



40003062
Autosampler with disc 1

10003926
RS232 Cable for balance

40001504
DUMASoft™ Software



E00010012
Velp Ermes 1 Year Connection

Use Genuine Velp Consumables accessories to get the best performance from your NDA 702

GLP Good Laboratory Practice

AOAC	AACC	ASBC
ISO	DIM	IFFO
OIV	ASIM	EPA

21 CFR Part 11 Compliance

The NDA 702 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

DUMASoft™ Software

The DUMASoft™ software is the powerful Velp solution that controls and operates the NDA 702 analyzer. The DUMASoft™ 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.

Before the Analysis

1

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

During the Analysis

2

- Monitor of the working parameters
- Real time graph of the analysis
- Immediate read-out of the results in mg of nitrogen, nitrogen % and protein %

After the Analysis

3

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

Technical Data

	NDA 702
Method of analysis	Nitrogen determination according to Dumas method (combustion)
Analysis time	3/4 minutes
Detector	TCD (Thermal Conductivity Detector)
Sample weight	Up to 1 g
Autosampler type	Electronic
Autosampler capacity	Up to 4 discs, 30 positions each (up to 117 samples)
Precision	≤ 0,2 % for EDTA Standard (Helium 5.0, 5-digit balance)
Recovery	> 99.5%
Detection range	N: ppm up to 200 mg abs. (or 100 %)
Combustion temperature	1100 °C 2012 °F
Carrier gas	Helium or Argon (grade 4.5)
Combustion gas	Oxygen (grade 4.5)
Connectivity	Ermes Cloud Platform via Wi-Fi or LAN connected to a PC
21 CFR Part 11 Compliance	Yes, optional package available
Interfaces	USB; RS232
Official references	ISO 16634; ISO 14891; AOCS Ba 4e-93, AOAC 992.23; AACC 46-30; ICC 167, ASBC Barley 7C; AOCS Ba 4f-00; AOAC 992.15; ASBC AOAC 997.09; OIV-MA-AS323-02A; AOAC 990.03; AOAC 993.13; ISO 13878; EN 16168, 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 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:

- Help-desk and Remote support
- Technical Assistance
- Analytical Support

We reserve the right to make technical alterations
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