

NDA 701 Dumas Nitrogen Analyzer

Analysis in a flash with the VELP Nitrogen/Protein Analyzer

- Fully Automated: totally unsupervised and independent of user's capabilities
- Flexible and Versatile: optimal for several sorts of sample
- High Productivity: non-stop performance
- Moderate Running Costs



NDA 701 is the innovative VELP Scientifica solution for nitrogen/protein determination, using the Dumas method (also known as combustion method) and offering **excellent performance** on both solid and liquid samples.

NDA 701 is revolutionary in terms of savings, thanks to **TEMS™** technology:

Time Saving - Unparalleled technology, results in 3-4 minutes

Energy Saving - Excellent engineering, low consumption.

Money Saving - Limited cost per analysis, less gas and reagents used (**LoGas™** and **DriStep™**).

Space Saving - Just one slim unit required for the whole analysis.

NDA 701 is **designed to last** and to **operate continuously**, even 24/7, requiring **minimal maintenance** and working completely in safe conditions, without the use of hazardous chemicals.

The **optimization of the consumables lifespan** combined with their rapid replacement enhance the benefits of this revolutionary unit, able to perform **extremely accurate analyses**, with a **very low detection limit (0.003 mgN)** and superlative precision. The low RSD% shows the analysis reliability, underlining the great reproducibility and the **quality of results**.

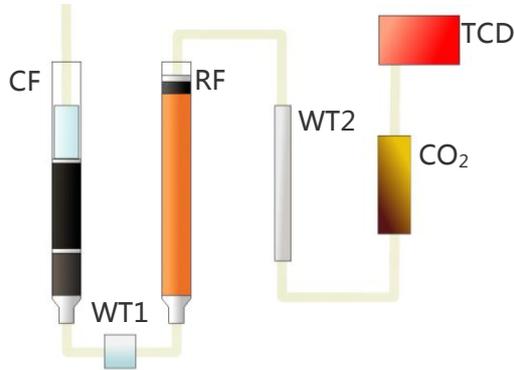
NDA 701 is completely controlled and operated by the **DUMASoft™ Software**, with most important information seen at a glance!

The instrument includes an **autosampler** that can manage up to 30 samples (stackable to 117) both solids and liquids loaded in tin capsules in a completely automatic way and a **kit of consumables** for up to 1000 analyses, being immediately **ready to use**.

In the **Dumas combustion method**, the encapsulated sample is burnt at a high temperature, in the presence of catalysts in a controlled oxygen atmosphere. The combustion gas, CO₂, H₂O, NO_x, passes through the reduction furnace where NO_x are reduced to N₂. The H₂O and CO₂ are separated and the elemental nitrogen is measured with a Thermal Conductivity Detector (TCD). The whole procedure takes from 3 to 4 minutes. The samples need to be suitably homogenized, in order to maximize results' precision and to analyze a representative part.

NDA 701 Analysis Flowpath

HELIUM as carrier gas on NDA 701



CF = Combustion Reactor
 WT1 = Water Trap (Physical)
 RF = Reduction Reactor
 WT2 = Water Trap (Chemical)
 CO₂ = CO₂ Auto-regenerating Traps
 TCD = Thermal Conductivity Detector

Industry – Application Fields:

- **Food, Feed & Beverage** industries - cereals, dairy products, meat, fish, animal feed, infant food, drinks, etc.
- **Environmental** and **Agriculture** industries - organic matters, soils, water, leaves, etc.
- **Pharmaceutical** and **Chemical** industries - plastics, oils, petroleum, etc.

Technical Data	Description
Method of analysis:	Dumas method / Combustion
Detector:	Innovative autocalibrating TCD (no reference gas required)
Sample weight:	up to 1g
Autosampler capacity:	up to 4 discs, 30 positions each
Reproducibility (RSD):	< 0.5% for EDTA standards approx. 100 mg (9.57% N)
Recovery :	> 99.5%
Detection range:	0.1 - 200 mg N
Detection limit:	0.003 mgN absolute
Combustion temperature:	1030 °C / 1886 °F
Helium (He):	purity 99.999% (grade 5.0)
Oxygen (O ₂):	purity 99.999% (grade 5.0)
Helium (He) pressure:	2 bar
Oxygen (O ₂) pressure:	2 bar
Interfaces:	USB, RS232
Power:	1400 W
Power supply:	230 V / 50-60 Hz
Weight:	54 kg / 119 lb
Dimensions (WxHxD):	655x510x410 mm (655x690x410 mm including autosampler) 25.8x20.1x16.1 in (25.8x27.0x16.1 in including autosampler)
Ordering information	Description
Code No	
F30800070	NDA 701 Dumas Nitrogen Analyzer

Your authorized agent:

We reserve the right to make technical alternations
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