

# Ready. Set. ANALYZE!

The new exceed PLUS series

Designed for simple and efficient nitrogen and protein determination using the Dumas method



# Carefully designed in every detail

## Two instruments, one goal: maximum laboratory efficiency

Our new exceed PLUS series analyzers are based on the fast, safe, and environmentally friendly Dumas method. They eliminate the need for hazardous substances and complicated sample preparation techniques and are consistently designed for efficiency, flexibility, and continuous operation in everyday laboratory use. This makes them a future-proof alternative to the traditional Kjeldahl method. Whether for routine analyses or changing matrices, both analyzers offer reliable and precise nitrogen and protein determination – even for complex use cases.

### rapid N exceed® PLUS

Lowest cost of ownership

Max. sample weight: 1.5 g / mL

Lowest cost per sample

Analysis time: 3-4 min



Sample preparation in tin foil or tin capsules

Cost-effective carrier gas CO<sub>2</sub>



### Two instruments, one approach

**Improved process control** and simplified operation

**Status display** directly on the instrument

**Simple, tool-free** maintenance

**Optimized consumables** and proven EAS REGAINER® technology for even longer operating life

**Matrix-independent, long-term stable calibration** for maximum sample throughput and years of precise measurement results

**Best-in-class sample throughput:** Fewer calibration measurements mean more space for real samples

**Outstanding precision and accuracy** thanks to optimal oxygen dosing and complete combustion

### rapid MAX N exceed PLUS

Highest sample variety and highest sample throughput in unattended operation

High weighing capacity of up to max. 5 g / mL for inhomogeneous samples without time-consuming grinding

Highly automated analysis process with low maintenance requirements

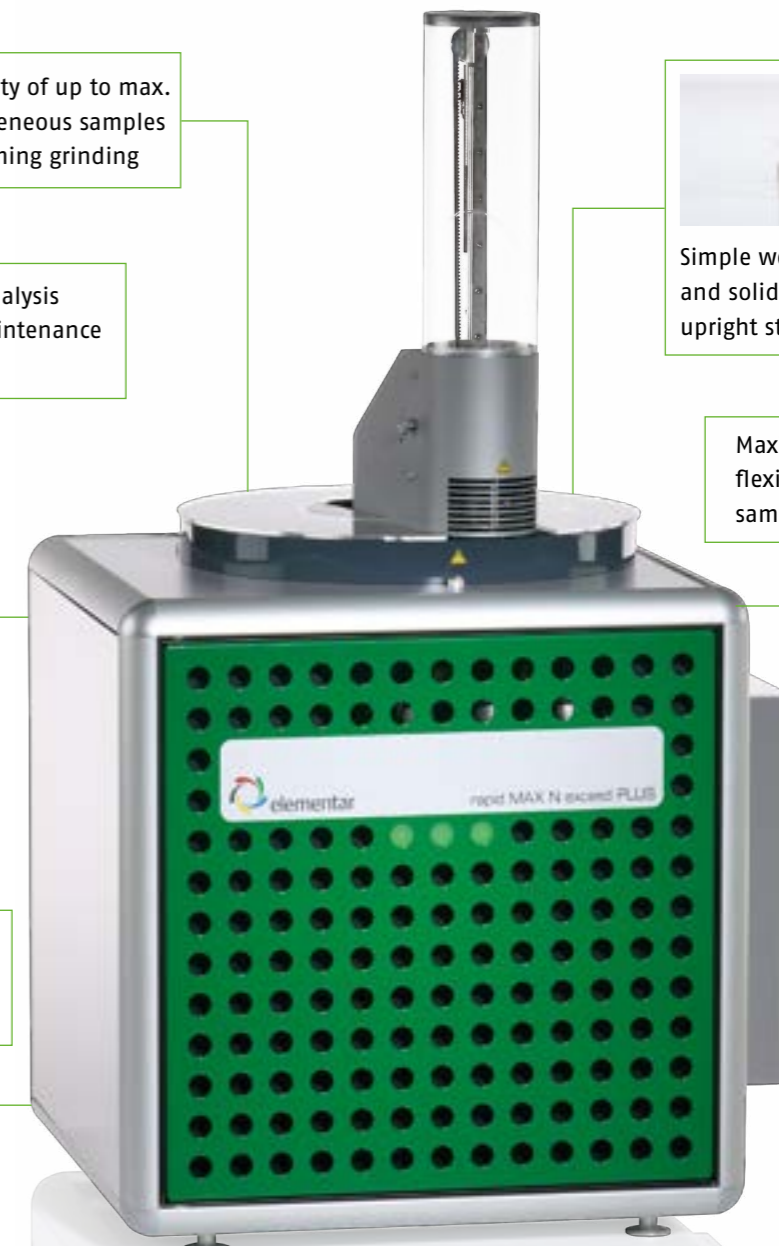
Argon carrier gas as a cost-effective alternative to helium



Simple weighing of liquid and solid samples in upright steel crucibles

Maximum sample flexibility, minimal sample preparation

Analysis time: 5 min



Range of applications

# Diverse samples. Clear results.

## Two instruments, one purpose: Norm-compliant nitrogen and protein determination

Whether running food, feed, or soil samples – the exceed PLUS series delivers reliable analysis across a wide range of matrices. The instruments' intuitive operation ensures that even challenging samples are processed reliably and precisely, making nitrogen and protein analysis simpler in everyday laboratory work. Ideal for laboratories with high sample throughput, varying sample types, and demanding quality standards.

The exceed PLUS series complies with numerous international standards for food, feed, and fertilizer samples, such as ISO 16634-1, ISO 16634-2, ISO 14891, ICC 167, EBC 3.3.2, EBC 4.3.2, EBC 8.9.2, EBC 9.9.2, AOAC 990.03, AOAC 992.15, AOAC 992.23, AOAC 993.13, and AOAC 997.09. National standards such as Lufa and DIN are also met.

### Typical sample types



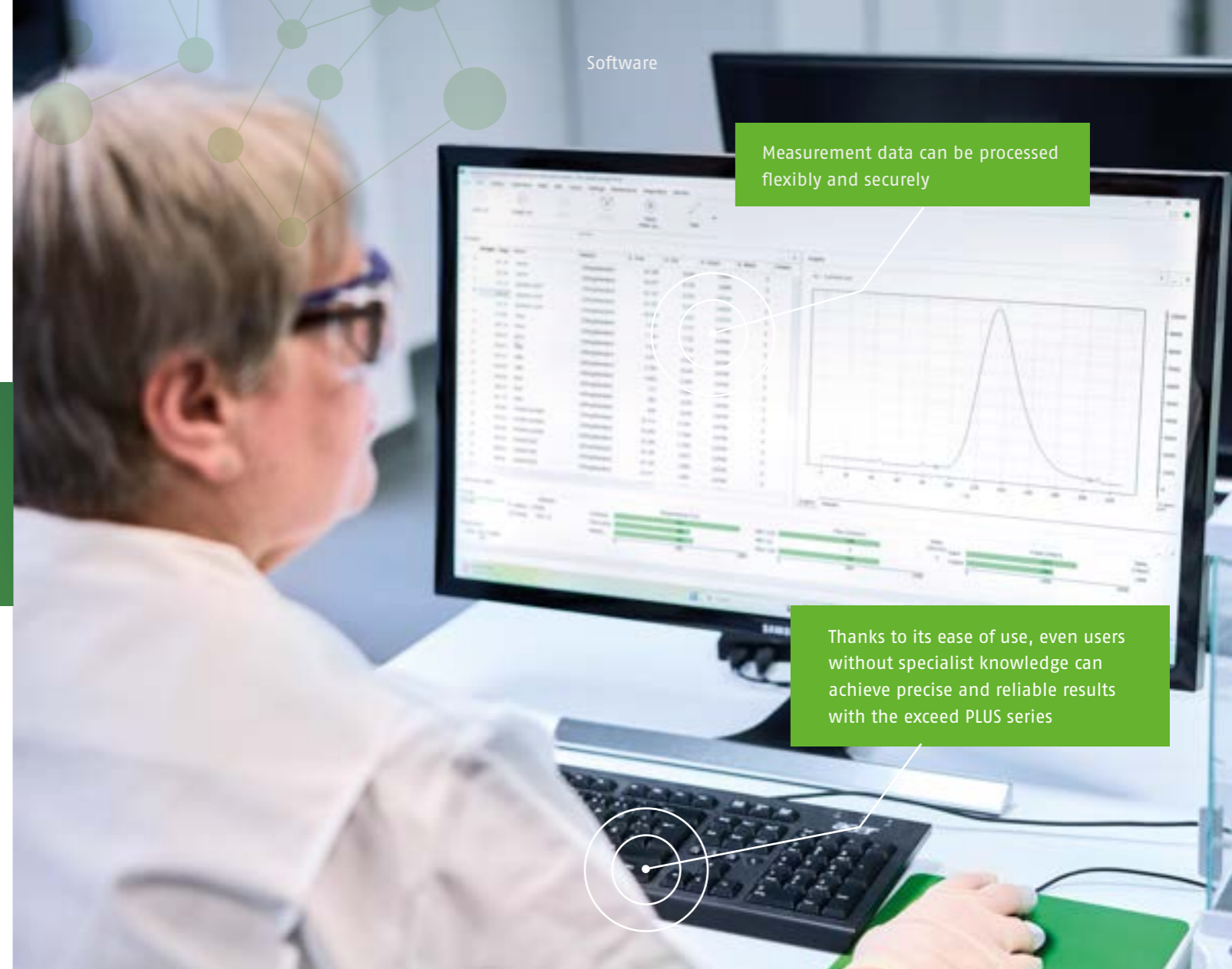
### Ideal solution for:

Food and feed industries

Contract laboratories

Public food and feed monitoring

Universities and research institutes



Software

Measurement data can be processed flexibly and securely

Thanks to its ease of use, even users without specialist knowledge can achieve precise and reliable results with the exceed PLUS series

## More overview. More control. More insights.

With optimized navigation, smart workflows, and clear traceability, the exceed PLUS software provides precise and efficient support for your everyday laboratory analysis.

#### INTUITIVE SOFTWARE

Optimized menu structure, maintenance interval monitoring, role-based user rights

#### SMARTER WORKFLOWS

Software-supported leak tests, calibration assistant, optional sequence termination when limit values are exceeded

#### OPTIMIZED 21 CFR PART 11 OPTION

With encrypted database, electronic signature, and updates in the audit trail

#### RELIABLE QUALITY ASSURANCE

Full traceability and dedicated evaluation of control standards

#### LIMS-READY

Fully integrate into existing laboratory information systems

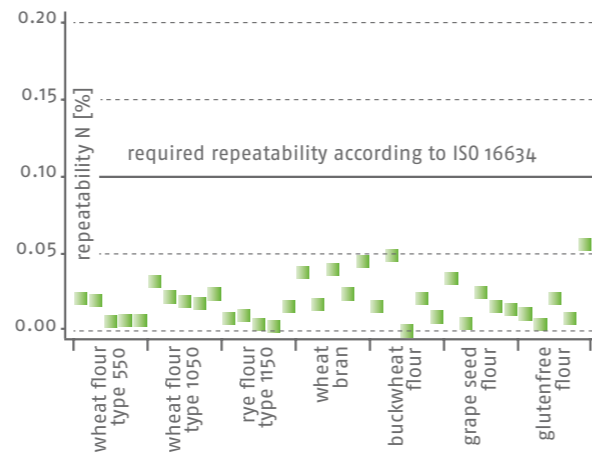
#### MORE THAN DATA: INSIGHTS

Powerful statistical analyses and flexible data processing

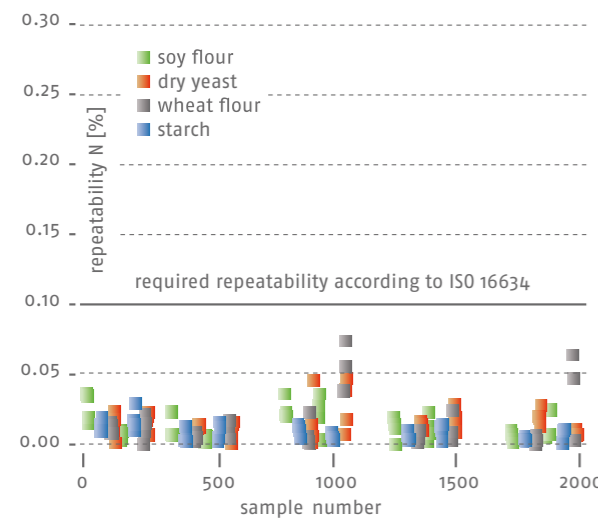
# High precision without compromise

Substance	Weight (mg)	Protein (%)	abs. SD (%)
Cattle feed	588	18.5	0.110
Pet food	500	21.43	0.201
Yoghurt	1000	3.05	0.156
Sausages	500	11.44	0.145
Parmesan cheese	500	45.03	0.549
Wheat flour	500	11.12	0.052
Gluten-free flour	500	3.98	0.074
Milk	1500	3.13	0.025
NPK fertilizer	100	1.16	0.031
Manure	1500	0.06	0.002

↑ In argon mode, the rapid MAX N exceed PLUS delivers reproducible protein measurements across a wide range of sample types – with maximum precision and low standard deviation.



↑ The rapid MAX N exceed PLUS provides outstanding repeatability for the analysis of different grains according to ISO 16634. Sample weight: 500 mg, carrier gas: argon.



↑ Outstanding repeatability for different sample matrices over 2,000 consecutive analyses using the rapid N exceed PLUS. Each data point is calculated according to the given norms. The required repeatability is marked by a line.

## Two different methods. One route to efficiency.

The analysis of the protein content of a wide range of food and feed samples is central to determining their quality, labeling, and pricing. Two methods are recognized as the standard for this: the classic **Kjeldahl method** and the modern **Dumas method**.

Both deliver precise results – but they differ significantly in terms of effort, speed, and handling. While the Kjeldahl method, as the classic reference method, is based on wet-chemical digestion with sulfuric acid, the Dumas method, based on the principle of high-temperature combustion, scores points for speed, automation, and safety.

**The exceed PLUS series takes advantage of these benefits and sets new standards for efficient protein analysis in everyday laboratory work.**



# Why choose the exceed PLUS series?

The most important advantages at a glance

### HIGHER SAMPLE THROUGHPUT THANKS TO MORE REAL SAMPLES

Best-in-class sample throughput, fewer time-consuming calibration measurements



### LONG-TERM SECURITY

10-year commercial guarantee on the high-temperature combustion furnace and the thermal conductivity detector cell



### LOW COSTS

Less consumables, less maintenance – more analyses per day



### RELIABLE PRECISION – ANYTIME

Matrix-independent, long-term stable calibration for precision and accuracy at all times



### EASY TO USE

Intuitive software with clear menu navigation and smart workflows



### MAXIMUM SAMPLE VARIETY

Large weighing ranges without homogenization – also ideal for demanding matrices



### LESS HASSLE

Minimized manual maintenance reduces workload and saves time



### ECONOMICAL OPERATION

Argon and CO<sub>2</sub> as cost-effective alternatives to carrier gas helium



# Our services for you

## Installation, consulting, training

From instrument installation and consulting to method development and qualification of your analytical processes, we support you in maximizing analyzer performance and achieving reliable, reproducible results. Our portfolio also includes GMP-compliant qualifications. Through the Elementar Academy, we offer customized training programs to expand or refresh your expertise.

## Customer service, maintenance, system checks

Our technical customer service team is always available to support you with any questions regarding our instruments. When required, we provide on-site service support. Our maintenance agreements include regular system checks to ensure long-term reliability and optimal analyzer performance. And should an issue arise, you can rely on fast, competent, and dependable assistance.

## Controlled quality with a long-term guarantee

Our instruments are characterized by exceptional robustness and durability. That is why we offer a 10-year commercial guarantee on the high-temperature combustion furnace and the thermal conductivity detector cell of most combustion analyzers. Our commitment doesn't end with your purchase: spare parts are available for at least 10 years, helping to reduce operating costs and protect your investment over the long term. Consumables can be conveniently ordered through our customer service team or online via the Elementar Customer Portal – ensuring reliability, efficiency, and sustainability throughout the entire lifecycle of your instrument.



Scan the QR code and discover further information such as Application Notes, Technical Notes, and Customer Spotlights in our online database.

### Elementar – your partner for excellent elemental analysis

Elementar is one of the leading manufacturers in high performance analysis of organic and inorganic elements. Continuous innovation, creative solutions and comprehensive support form the foundation of the Elementar brand, ensuring our products continue to advance science across agriculture, chemical, environmental, energy, materials and forensics markets in more than 80 countries.

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