

Dumatec™ 8000

Low cost Dumas in less time



ANALYTICS BEYOND MEASURE

Reliable Dumas results in just three minutes at a low cost per sample. Reduce start-up time while extending consumable lifetime and unique software functions allow desktop-operation and traceability.

Three minute Dumas

Reliable results in 3-5 minutes with instant analysis of all resulting gases. Innovative design avoids calibration standardisation between batches of the same sample type ensuring a fast start up time of 30 minutes.

Low running costs

Low oxygen and helium consumption through combustion control and TCD detector with no need for a reference gas flow. A unique three-stage water removal system saves use of reagents. Low operator time and automatic monitoring of run samples with certified quality catalysts that last for up to 800 analyses.

Reliable Dumas with reduced work

Dumatec™ is hooked up to FOSS digital services for auto recording of results and data that is handled efficiently, always backed up and instantly accessible from anywhere, anytime. Innovative features such as automatic removal of CO₂ with patented adsorption trap and auto sampler disc system allows testing of up to 117 samples in one go.

Sample type

Food and animal feed, liquid, paste and solid samples

Parameters

Nitrogen/protein

Technology

Dumas method – quick combustion of a sample in a pure oxygen atmosphere and analysis of all resulting nitrogen. Helium is used as carrier gas.

Official reference method

AOAC 997.09 Beer, wort, brewing grains
AOAC 990.03 Animal feed
AOAC 992.23 Cereal grain and oilseed
AOAC 992.15 Meat and meat products
ISO 14891 Milk and milk products
ISO 16634 Determination of total nitrogen

Specifications

Performance data	
Sample weight	0,5 mg - 300 mg (typically 100 mg). Samples with low organic matter up to 1000 mg
Autosampler capacity	Three discs with 39 positions in each; a total of 117 positions (disc 2 and 3 is optional)
Analysis time	2 - 5 min, depending on the sample substance and weight
Recovery	> 99,5 %
Detection limit	0,003 mg N
Relative standard deviation	< 0,5 % with 150 mg test substance
Measuring range; nitrogen	(EDTA) 0.01 - 50 mg N
Temperature range	Combustion furnace 400 - 1100 °C Reduction furnace 400 - 1100 °C Desorption furnace 50 - 350 °C
Measuring range; nitrogen	Minimum <0,01 mg. Maximum 50 mg
Instrument management	
Networking software	FossManager™
Installation requirements	
Helium supply	Quality grade 5.0 (99.999%)
Oxygen supply	Quality grade 5.0 m (99.999%)
Compressed air or industrial nitro-gen (auto sampler drive)	Quality grade 2.6 (99.6%), without dust, oil and water vapour, dew point below -40 °C
Inlet pressure helium	3 bar
Inlet pressure oxygen	3 bar
Inlet pressure compr. air / nitrogen	4 bar
Power supply	220-240 VAC, 50/60 Hz*
Current	6 A
Transient overvoltage	Category II (according to IEC/EN 60364)
Fuse rating	T 6A h 250 v
Dimensions (W x D x H)	800 x 450 x 590 mm (710 mm with auto sampler)
Weight	65 kg
Digital balance	Precision 0.1mg (calibration starts 5mg abs Nitrogen) 0.01mg or better (calibration starts 1mg abs Nitrogen)

*For use in USA and Canada (110/120 VAC), a transformer with a minimum output corresponding to the input rating of the instrument is required.

Accessories and consumables:

- Tin foils
- Quarts tube
- Crucibles
- Sample preparation plate with plunger
- Capsule forming and closing device
- Sample holder
- Wool pads

Reagents

- Copper 450g
- EDTA
- Absorbent for liquid samples
- Pre-packed combustion tube

Sole distributor in Romania and Moldavia:

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