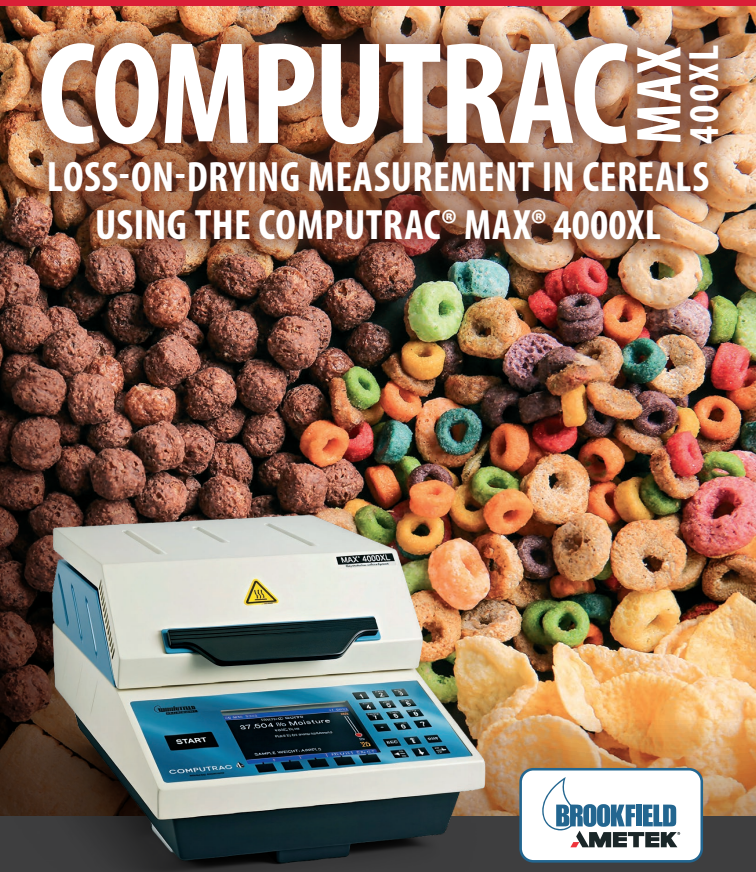
Official UK Sales & Service Centre

COMPUTRAC MAX 4000XL

LOSS-ON-DRYING MEASUREMENT IN CEREALS USING THE COMPUTRAC® MAX® 4000XL



BROOKFIELD AMETEK

HIGH-PRECISION MOISTURE DETERMINATION FOR RELIABLE CEREAL QUALITY CONTROL

- 100 µg balance delivers repeatable, reliable moisture and solids data
- All-steel body with nickel chromium heater for long-term use
- Built-in lid fan boosts throughput by up to 25%
- Ideal for food, pharma, plastics and chemicals
- User-defined settings tailored to material-specific needs
- Run linked test stages for advanced moisture profiling
- Monitor moisture curves and rate graphs on an intuitive colour display
- Enables remote monitoring, calibration downloads and audit log access
- Store 250 programmes, 1,000 results and 100 graphs onboard
- Free access to application specialists for method development and troubleshooting

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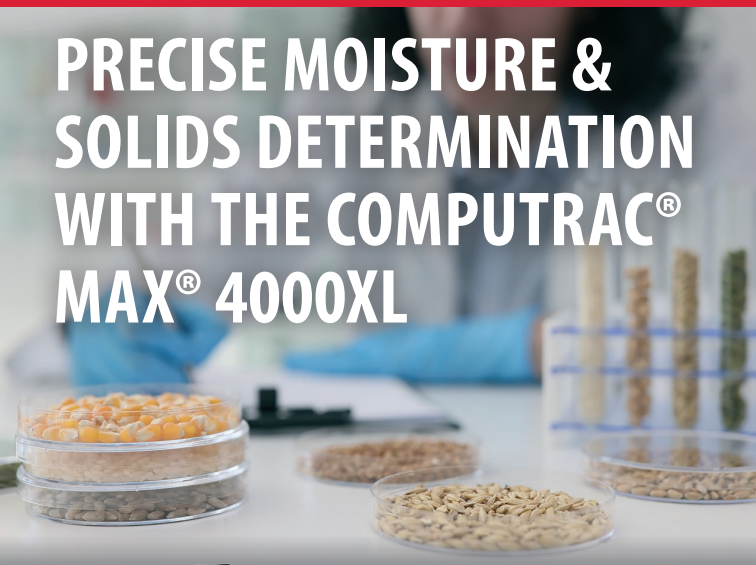
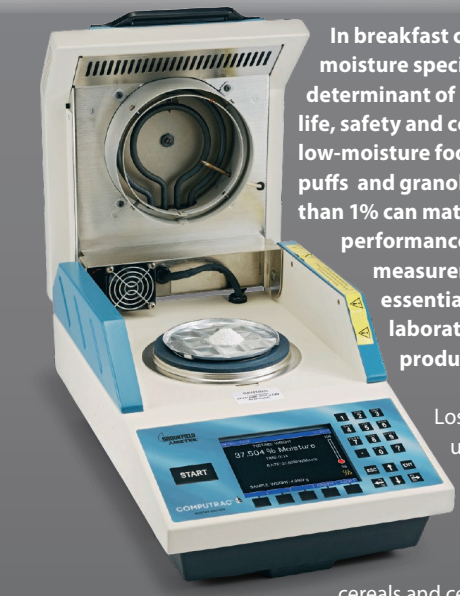
PRECISE MOISTURE & SOLIDS DETERMINATION WITH THE COMPUTRAC® MAX® 4000XL





In breakfast cereal manufacture, moisture specification is a primary determinant of product texture, shelf life, safety and commercial yield. For low-moisture foods such as flakes, puffs and granola, deviations of less than 1% can materially affect product performance. Rapid, accurate measurement is therefore essential both in quality laboratories and on production lines.

Loss-on-drying (LOD) analysis using the Computrac MAX 4000XL Moisture Analyzer provides a widely adopted solution for determining % moisture and % solids in cereals and cereal intermediates. Unlike traditional oven methods, modern rapid LOD instruments deliver near-reference accuracy within minutes, enabling real-time process control.

Repeatable **Reliable** **Accurate**

Able Instruments & Controls Ltd are the **exclusive representative** for sales and service of the **Computrac® MAX® 4000XL** in the UK and Ireland

ADVANTAGES OVER CONVENTIONAL OVEN METHODS

Rapid loss-on-drying analysis provides results in minutes rather than hours, enabling near real-time process adjustments. Predictive end-point algorithms automatically stop tests once stability is achieved, further reducing analysis time. High measurement precision supports tight control at the low moisture levels typical of ready-to-eat cereals, while rapid chamber cooling increases sample throughput for high-volume operations. Programmable temperature profiles and multistage methods allow accurate analysis across diverse cereal formulations, from plain extrudates to sugar-coated or oil-rich products, making the technique both efficient and broadly applicable in production environments.

APPLICATION TO CEREAL MANUFACTURING

Rapid LOD moisture testing supports control across the entire cereal production process, from verifying incoming grains for storage stability and process consistency to optimising extrusion conditions that govern dough behaviour, expansion, density and equipment load. It enables precise determination of drying endpoints to achieve target texture and shelf life while avoiding energy waste and confirms that moisture introduced during coating or addition of syrups, oils, or inclusions remains within specification before packaging, preventing stickiness, softening and quality defects.

BROOKFIELD AMETEK

QUALITY, SAFETY AND SHELF LIFE

Low moisture inhibits microbial growth and slows chemical deterioration, but cereals readily absorb environmental humidity. Accurate measurement preserves crispness, prevents mold, limits rancidity and Maillard reactions and supports shelf-life compliance and food safety programmes.

Visual difference of crisp, dry cereal versus moisture damage

METHOD DEVELOPMENT CONSIDERATIONS FOR CEREALS

Reliable LOD results require optimisation of drying temperature, sample size, distribution, end-point criteria and management of volatile components. Stored, product-specific test programmes improve consistency across operators and shifts.

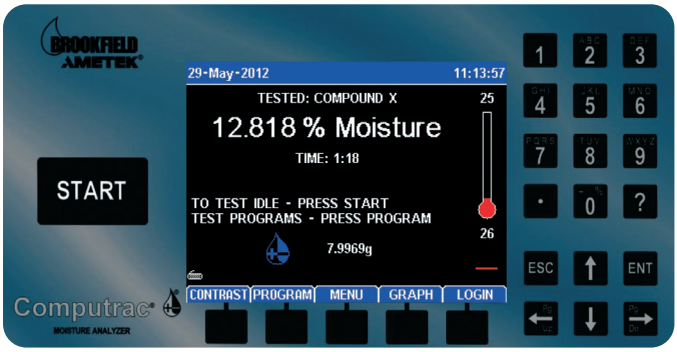
ECONOMIC IMPACT

Moisture directly affects saleable weight and waste risk. Excess moisture increases spoilage and returns, while insufficient moisture leads to underweight product and lost revenue. Rapid, precise LOD measurement minimises both outcomes and reduces energy and labour costs compared with slower methods.

WHY CHOOSE THE COMPUTRAC MAX4000XL FOR YOUR LOD NEEDS?

The Computrac® MAX® 4000XL is a high-performance loss-on-drying (LOD) moisture analyser engineered for fast, accurate determination of % moisture and % solids across a wide range of materials. Designed to deliver laboratory-grade precision with production-floor practicality, it provides rapid results that enable real-time quality control and process optimisation.

- ***Ultra-Fast Analysis***
- ***Correlation to Standard Methods***
- ***Precision You Can Trust***



The Main Test screen offers a bright, intuitive colour display.

DESIGNED FOR BOTH LABORATORY AND PRODUCTION ENVIRONMENTS

The MAX 4000XL bridges the gap between analytical laboratory instruments and rugged plant-floor tools:

- ***Laboratory use:*** *Ideal for reference testing, method development and quality assurance, delivering dependable, repeatable data*
- ***Production use:*** *Robust construction, rapid operation and simple user interface make it equally suited to at-line or in-process testing, enabling operators to make immediate adjustments to maintain product specifications*

Stored test programmes ensure consistent operation across shifts and locations, reducing operator variability and training requirements.

IMPROVE EFFICIENCY, REDUCE RISK

By providing fast, accurate moisture data where and when it is needed, the Computrac MAX 4000XL helps manufacturers:

- ***Shorten decision cycles***
- ***Optimise drying and processing conditions***
- ***Prevent overdrying or underdrying***
- ***Reduce waste and energy consumption***
- ***Maintain product consistency and compliance***

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COMPUTRAC MAX 4000XL SPECIFICATIONS

Moisture | Solids Range	0.005% to 100%
Dry Weight Range	0% to 300%
Moisture Resolution	0.001%
Balance Resolution	0.0001 g
Repeatability	0.002% SD (*dependent on test programme)
Temperature Range	25°C to 275°C
Heating Element	Nickel Chromium
Sample Size	100 mg to 40 g
Results	Moisture, Solids, Dry Weight, Purity
Ending Criteria	User adjustable: Prediction, Rate, Time and 4 other combinations
Memory	Stores up to 250 test programmes, last 1000 results and last 100 graphs
Statistical Analysis	Mean, SD, RSD
Balance Calibration	Menu-driven calibration by the end user; NIST traceable calibration performed by the manufacturer
Heater Calibration	Menu-driven, NIST traceable calibration with optional Temperature Calibration Kit
Operating Environment	0-40°C at <50% RH; 0-30°C at <80% RH
Power Requirements	100-120 VAC, 50/60 Hz, 8A or 220-240 VAC, 50/60 Hz, 4A
Dimensions	9.5" H x 11.5" W x 19.5" D (24 cm H x 30 cm W x 49.5 cm D)
Weight	32 lbs. (14.5 kg)
Warranty	Two years, factory parts and labour (one year international)
Rear Panel Connections	USB A and B, ethernet, serial port
Display	1/4 VGA, 320 x 240 pixel, colour
Certifications	UL, CE

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