Rapid Visco Analyser

RVA 4500

Starch

Extruded Foods

Formulated Foods

Finished Products

Measure Performance of Ingredients and Finished Products

Perten INSTRUMENTS

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Rapid Visco Analyser RVA 4500

The RVA measures the viscosity and performance of starches, raw materials, ingredients and foods using controlled temperature and shear. It can be used to characterize ingredients, intermediates and finished products to optimize quality and performance. Temperature and stirring speed (shear) can be programmed to follow international standard methods or your own custom methods, or use the RVA as a miniature pilot plant to mimic realworld manufacturing and preparation processes such as heating, cooling and mixing. RVA 4500 interfaces with a PC and TCW3 software for operation and data management and includes a library of methods for dozens of applications including starch and hydrocolloid performance and degree of cook. RVA 4500 combines speed, precision, flexibility, and automation and is a unique tool for research, product development, process monitoring, QC and QA to optimize ingredient use, product formulation and processing conditions. RVA 4500 offers exceptional sensitivity and accuracy when analyzing low viscosity samples and wide dynamic range when analyzing high viscosity samples.

Features & Benefits

High Sensitivity: Direct drive motor and control system for low viscosity samples.
Wide Viscosity Range: Optimized measurement system for high viscosity samples.
Rapid Viscosity Profile: Standard starch pasting test in 13 minutes.
Robust: Suitable for factory floor to analytical laboratory.
Traceable: Calibration check with traceable standards to satisfy ISO9000 and Quality System requirements.
Glass-free: Safe for food manufacturing areas.
Precise: Accurate, crystal-locked stirring speeds, heating and cooling rates, ensures repeatable results between RVAs.
Standard: Standard methods approved by ICC, AACC International and others.
Relevant: Tailor test routines to emulate processing conditions in industry.
ER/ES Compliant: Electronic Registration/Electronic Signature compliant TCW3 can create traceable, secure results and reports.

Applications

Suitable for R&D, product design, production, quality assurance, quality control, raw material testing, process design and process control.
Starch: Full starch pasting test for native and modified starches using 13 minute standard methods.
Proteins: Wheat gluten, skim milk powder, whey protein concentrate, soy protein.
Gums: Gelling and thickening profiles of hydrocolloids and formulations.
Flour Milling & Baking: Starch quality, gluten quality, amylase activity, weather damage.
Brewing: Malting barley, barley storage, kilned malt and brewing adjuncts.
Dairy: Processed cheese manufacture and melt, soft dairy desserts, ice cream, yogurts.
Extruded and Cooked Foods: Snacks, breakfast cereals, pasta, noodles and petfoods for pasting and degree of cook.
Miniature Pilot Plant: Test new ingredients, formulations and process conditions prior to scale-up.

Specifications

Power Requirements: 240/115VAC, 3.5A, 50/60 Hz.
Input/Output: USB port, RS232 serial port.
Dimensions (H x W x D), Net Weight: 382 x 306 x 345 mm, 18 kg.
Temperature Range: 0-99.9ºC.
Heating/Cooling Rate: Up to 14ºC/minute (infinitely variable).
Coolant Consumption: Water, 1 l/min at cooling, 100-250 kPa. Chilled coolant required for cooling below room temperature.
Speed Range: Computer controlled infinitely variable 0, 20-2000 rpm.
Viscosity Range: 20-50,000 cP at 80 rpm, 10–25,000 cP at 160 rpm.
Viscosity Accuracy: +/- 2% for S2000 Oil nom. 5000 cP.