Flour & Dough Testing
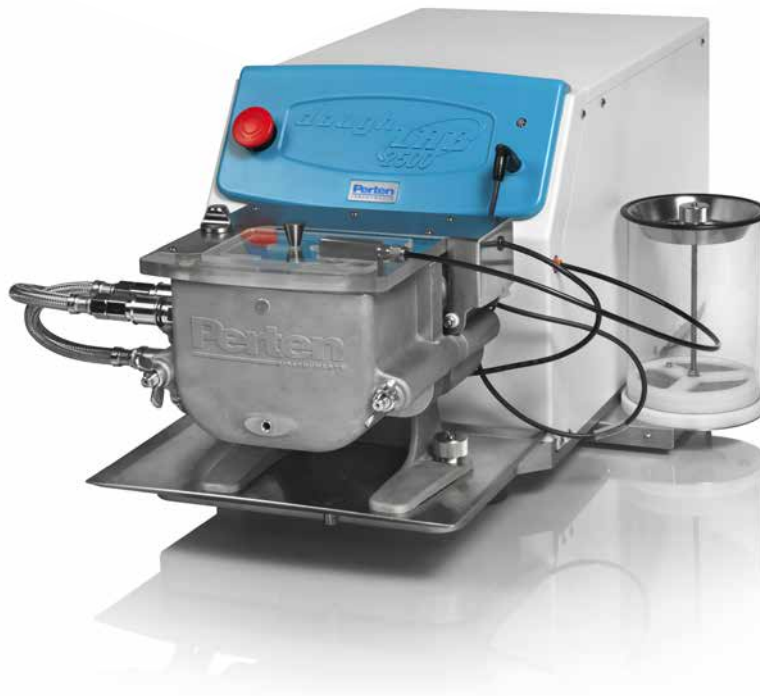
doughLAB

NEW Standard:
AACCI 54-70

Flour

Dough

Bread

Pasta & Noodles

Real-world Flour and Dough Rheology

doughLAB
The New Standard

Standard Method:
AACCI 54-70

Perten
INSTRUMENTS

doughLAB

doughLAB is a flexible dough rheometer with a conventional z-arm mixing action. The doughLAB includes a user-friendly Windows software program with traceable calibration designed for both millers and researchers and automated water dispensing (no need for a burette). The mixing chamber and blades are detachable for easy cleaning. It has programmable temperature and mixing energy to mimic commercial processes, evaluate finished dough performance, research the response of a dough to changing stress and perform water absorption and flour quality methods. Determine dough mixing profile, development time, stability, softening and other quality parameters of wheat, rye and durum doughs for milling, baking, and food applications. Flour, whole meal, semolina and formulations containing ingredients and improvers can all be tested. Create custom tests for bread, pizza crust, pastry, cookie, cracker, pasta and noodle doughs.

Features and Benefits

Approved High Speed Rapid Mixing Method: AACC International Method 54-70.
Versatile: Choice of 50g and/or 300g mixing bowls. Programmable temperature to study dough performance during heating, cooling and gelling/cooking. Variable speed mixing to study stiff and crumbly doughs, novel formulations, evaluate dough response to changing stress and mimic commercial mixing.
Automated: Integrated bowl temperature control system. Integrated automatic water dispensing "drip" function and temperature control.
User Friendly: Windows software with flour/dough quality methods included in the software library, plus users can create their own methods. Real time graphs, data analysis, diagnostics and virtual blending function. Test configurations, data, and analysis programs stored in software and easily transferable. Easy to use "routine user" mode.
Traceable: Calibrated in standard and traceable torque units (Nm). Complies with ISO9000 and Quality System requirements.
Secure Results: Software password protection and single-page report with traceable data comply with Electronic Registration/Electronic Signature requirements.

Applications

Dough Mixing Profile: Water absorption, development time, stability, softening mixing tolerance index and other parameters using standard methodology.
Composite Flour Performance: Use programmable mixing speed and temperature to study the performance of multi-component flours.
Protein and Starch Performance: Gluten and carbohydrate behavior in real time.
Effect of Ingredients and Treatments: Evaluate the performance of flour treatments, dough ingredients and enzymes.
AACC International High Speed Rapid Mixing Method: Use high-speed mixing to emulate commercial mixing processes.
Blend Modelling: Predict the result of commercial scale flour blending.

Specifications

Power Requirements: AC 220/240 V $\pm$ 10% 50/60 Hz, 1200 VA.
Computer Requirements: PC with Windows XP (SP2 or SP3) or Vista operating system.
Dimensions (H x W x D), Net Weight: 370 x 490 x 970 mm, 91 kg incl. bowl.
Data Interface: USB B type.
Temperature Range: 0-80°C (variable)
Water supply: 1 L/min at maximum, 100 kPa (at instrument), <25°C. (Chilled water supply required for operation below room temperature.)
Heating/Cooling Rate: Heating: 2.5°C/minute max. Cooling: 5°C/minute max. (depending on cooling system).
Temperature Monitoring: Sample, bowl and water.
Speed Range: 0, 10-200 rpm.
Motor Torque: Up to 25 Nm.