

Flour & Dough Testing

micro-doughLAB



Flour 4g



Plant breeders



Bread



Dough

Water Absorption, Dough Mixing Profile plus Elasticity

micro-doughLAB

The micro-doughLAB is a small scale (4g) dough mixer and analysis system to determine the quality and processing characteristics of flour and dough. Measure absorption (amount of water required for a dough to reach a defined consistency), dough mixing profile (development time, stability, softening and other quality parameters) and dough elasticity in one instrument. The small sample size is ideal for researchers, wheat breeders, grain handlers, millers and bakers with limited sample and/or valuable samples. Users can save time and money by accurately and quickly identifying the best flour for their application. The micro-doughLAB operates from PC with doughLAB for Windows (DLW) software, has integrated temperature control and is easy to use, compact, reproducible, accurate, and cleans up quickly.

Features and Benefits

Small Sample Size: Integrated 4g micro scale bowl.

Elasticity Test: Viscous and elastic properties of dough evaluated throughout a single mixing test.

Programmable temperature and mixing energy:

Mimic commercial processes, evaluate finished dough performance, research the response of a dough to changing stress, paste starch, study stiff and crumbly doughs and novel formulations.

Automated: Integrated bowl temperature control system and water dispensing.

Fast: High-energy mixing for high-throughput testing.

Easy Clean Up: Bowl disassembles quickly for easy cleaning to increase sample throughput.

User Friendly: Windows software with flour/dough quality and elasticity methods in the software library, plus users can create their own methods. Real time graphs, data analysis, diagnostics and virtual blending function. 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

Early Stage Breeding: Small scale standard and custom tests to screen breeder lines with desired quality traits.

Rapid Methods: Fast throughput tests correlate with standard methods.

Quality: Verify performance and specification of flour using commercial process and end-product relevant tests.

Analysis: Includes Water Absorption, Dough Development Time, Arrival Time, Departure Time, Stability, Softening, Mixing Tolerance Index, Peak Energy, Bandwidth at Peak, Elasticity.

Products: Wheat meal, flour, semolina, additives, rye, durum, triticale, other grains and flours and full formulations for milling, baking (bread, cake, pastry, pizza crust, biscuit, cookie and cracker), pasta and Asian products (steam bread, noodles and flat bread).

Specifications

Power Requirements: AC 115/230V \pm 10% 50/60 Hz, 500 VA.

Computer Requirements: PC with Windows XP (SP2 or SP3) or later operating system.

Dimensions (HxWxD), Net Weight: 380x320x550 mm, 25 kg.

Data Interface: USB B type.

Temperature Range: Greater of 5°C or T_c – 15°C (T_c = coolant temp) to 95°C.

Heating/Cooling Rate: \pm 6°C/minute.

Cooling Water Supply: 20 – 100 kPa (regulator used if >100 kPa)

Speed Range: Computer controlled infinitely variable 0 – 200 rpm.

Torque Range: 0 – 1000 mNm.

Dispenser Range: 0 – 5 ml.