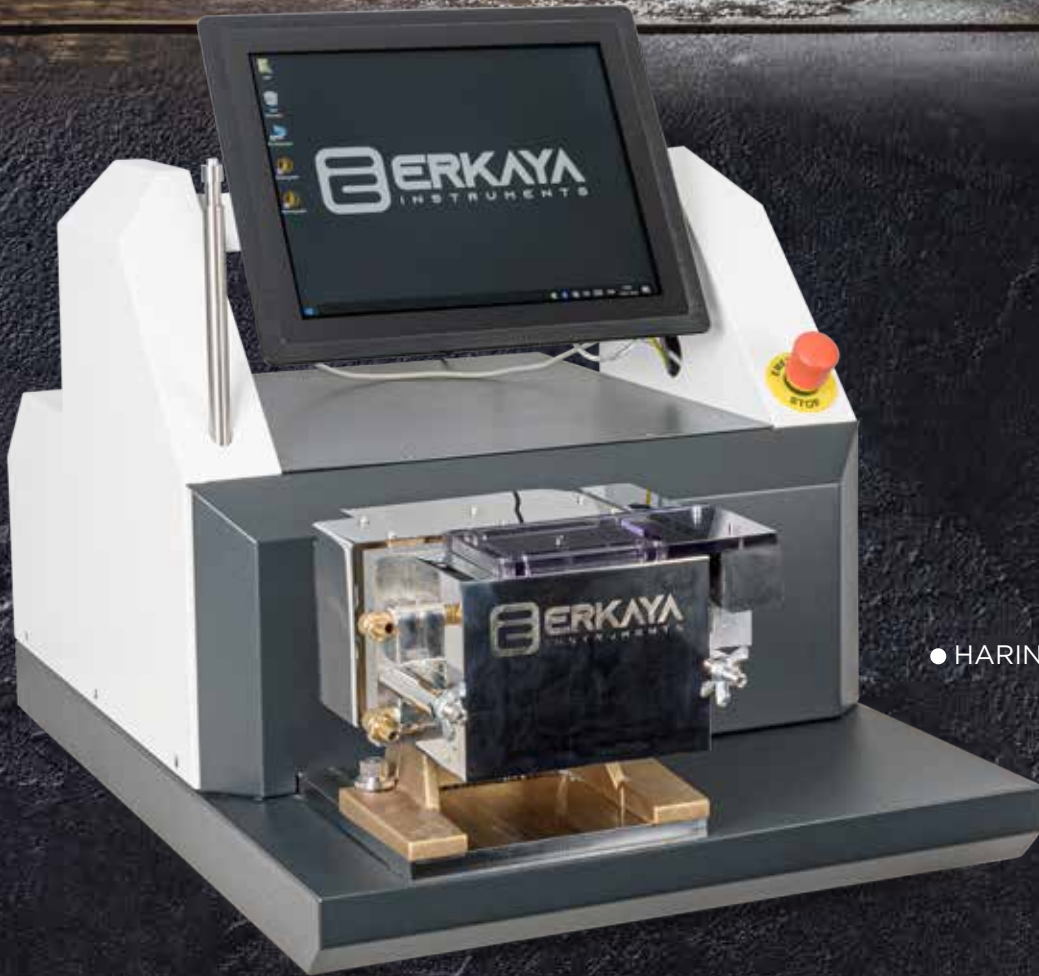


FAR BEYOND THE ORDINARY



www.erkayagida.com.tr

● HARINOGRAPH H1

**For rheological analysis of the dough and
measuring flour quality**

 **ERKAYA**
INSTRUMENTS

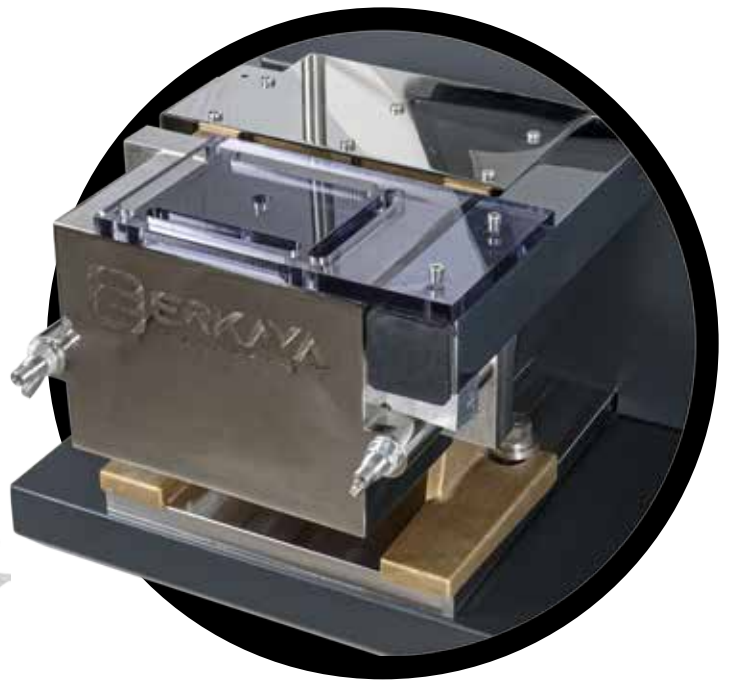
HARINOGRAPH H1

Standardized methods to determine quality of flour and dough

Harinograph is a quality control device used to determine the water absorption and mixing properties to obtain a dough with a certain consistency from flour. Erkaya brand Harinograph device has become one of the prominent ones in this category with its easy use, reliability and repeatability of its results.

Harinograph H1 consists of 1 speed control unit and 1 mixing unit. The reliable and reproducible determination of the quality and processing properties of flour has great importance for all facilities working with flour. In this way, the flour industries which produces bread, biscuit, pasta and etc. can obtain a single type of product.





HIGH TECHNOLOGY

The Harinograph H1 is presented to you with an integrated computer;

- ▶ Manage all tests from a single touch-screen.
- ▶ Archive for results of analysis.
- ▶ Printing option for results
- ▶ You can adjust the speed of mixer; Reduced test time and/or increased mixing intensity with variable speed (0 - 200 1/min)

Areas of Application

- ▶ Measuring the water absorption capacity of the flour (There are 3 important factors affecting the water absorption of the flour: 1. Amount and quality of protein 2. Amount of damaged starch 3. Particle size of flour.)
- ▶ Determination of the rheological properties of the dough
- ▶ Evaluation of the blends and production in the mill

Principle

- ▶ The flour-water suspension is filled into the heated mixing unit, which is subjected to mechanical stress created by rotating mixer blades controlled by a motor. Depending on the viscosity of the dough, the resistance that the dough shows against the blades causes the motor to bend in the opposite direction. This deviation is measured as torque and recorded and graphed online as a function of time.



Harinogram shows these following properties of flour:

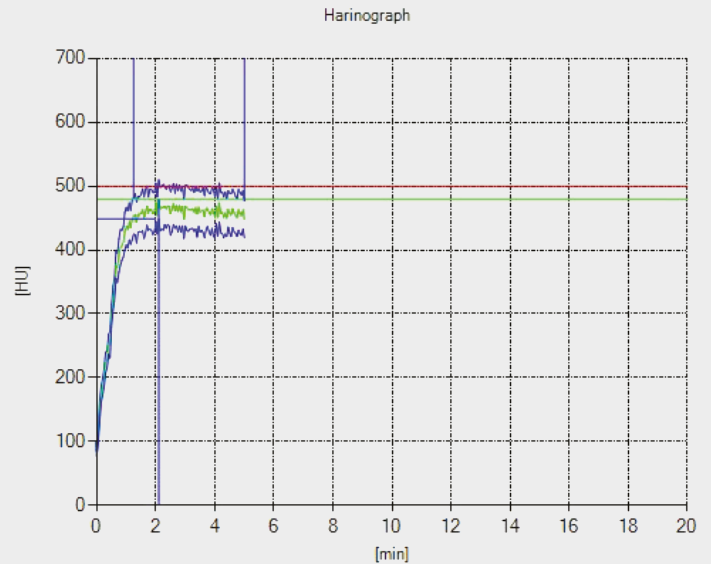
- ▶ Water-absorption capacity
- ▶ Development time of the dough
- ▶ Stability
- ▶ Softening degree
- ▶ Harinogram quality number (HQN)

Technical Specifications

Max. Torque	20 Nm
Speed / Speed profiles	0 - 200 min-1
Mains connection	220 V; 50/60 Hz + N + PE; 5,2 A
Interfaces	1x ethernet connection; WiFi 1x HDMI connection 4x USB connections 2x RS232 port
Dimensions (W x H x D)	90*70*57 cm
Weight	Approx. 120 kg net

HARINOGRAPH

Evaluation of sample	Sample 1
Method	FREE
Date	22.05.2023
Operator	ERKAYA
Mixer	296
Speed	63
Moisture	12.7
Consistency	479.0
Waterabsorption	59.4
Moisture	12.7
Consistency	479.0 with
Waterabsorption	59.4
Waterabsorption	58.9 (500HU)
Waterabsorption	57.3 (14 M.)
Development time	2.1
Stability	3.8
Degree of softening (10 min after begin)	0
Degree of softening (12 min after begin)	0
Harinogram quality number	29
Remarks	



CONTACT US:



T. +90 312 395 2986
F. +90 312 395 0878



export@erkayagida.com.tr



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Sincan/Ankara