







Elastograph

Harinograph

BERKAYA



Harinograph measures; Water Absorption, Dough Development Time, Stability, Degree of softening, Harinograph Quality Number (HQN)



Features & Advantages

- Modular design, Touch screen integrated system.
- Easy handling, reliable, repeatable results in determination of flour quality and its characteristics.
- · For use in wheat and rye flour.
- Fully automatic measurement.
- Designed for the milling and baking industries to ensure optimum and uniform flour qualities.
- Compliant with different international standards and methods.
- Easy and flexible data access through a browser.

Features & Advantages

- Elastograph measures Resistance to extension (R5 cm), Resistance to extension (RMax.),
 Extensibility, Area below the curve (energy, A)
 Ratio number 5, Ratio number Max to make reliable statements about the baking behavior of the dough.
- Determines the rheological optimum to standardize the flour quality.
- Fermentation room with 4 cells.

- Elastograph shows the influence of flour additives like ascorbic acid, enzymes (e.g. proteinases), and emulsifiers and thus permits to determine the rheological properties of each flour and to adjust the "rheological optimum for the respective purpose.
- Integrated touch screen display.
- Conforms to all international standards.
 Measurements of 45, 90 and 135 minutes are recorded during the test.





Starch Damage Analyser SD-A

Erkaya "SD-Analyser" is ideal for determining Damaged Starch analysis in flour.

Features & Advantages

- Erkaya Industrial Laboratory Mill simulates the main steps in an industrial mill.
- Includes a breaking part which includes 3 fluted rolls and a reduction part which has 2 flat (smooth) rolls.
- · It allows you to determinate quality of wheat at the purchasing step.
- Determination of conformity for quality criteria of prepared blends.
- Estimation of milling characteristics (extraction rate, wheat behavior during the milling process).
- · Characterization of obtained flour.
- High quality rheological analysis.

- Reduced maintenance period.
- Durable rolls.
- Simple, repeatable, reproducible and standardized
- · The biochemical composition of the processed flour in this mill is very close to industrial flour (purity,
- · Histological composition, starch damage, quality and quantity of protein).
- · Highly robust rolls. Metallic particles are eliminated by magnetic contact before milling.
- CE certified.

Features & Advantages

- Erkaya "SD-Analyser" is ideal for determining Damaged Starch analysis in flour.
- Amperometric method.
- Color Touch Screen Function, 2 screen themes
- Device measures iodine absorption in a diluted flour suspension.
- The more Starch Damage, the faster iodine is absorbed.
- Possibility to adjust dough stickiness.
- Possibility to adjust water absorption which relates to dough yield.
- Possibility to check the rolls and their settings.

- Enzyme free application.
- · Simple, fast and reliable operation.
- Availability of remote control by mobile phone.
- Results screen in UCD, AACC, Farrand, Audidier methods.

Used For

- Checking the conditions of the rolls
- Optimizing the volume, color and shelf life of the
- Adjusting water absorption and dough stickiness.

Hammer Mill HM 210



Hammer Mill

HM 310

Hammer type laboratory mill is used for sample preparation for Gluten washing, Falling Number, Protein and NIR applications.

Features & Advantages

- · CE certified.
- A hammer type laboratory mill which is used for sample preparation for Gluten washing, Falling Number, Protein and NIR applications.
- Grinds grains, pellets, meals, spices, oilseeds, feeds and forages.
- · Reduced clogging by high performance motor
- · Long lasting, durable,
- · Cyclone outlet with filter bag to minimize dust
- The sample is collected in a filter bag after passing through the sieve.
- Airflow feeder regulates feeding and facilitates grinding of large samples.
- Specific production for corn.

- Lid switch provides safe operation.
- Convenient and rapid sample preparation.
- It provides possibility to grind samples up to 25% moisture content.
- 300 gr in 30-50 seconds depending on sample type and the moisture content.
- A steel hammer rotates at high speed and forces the sample through a stainless-steel sieve.
- Standard sieve is 0.8 mm for Falling Number, Gluten washing system and NIR analyses. Other sieves are also available upon request. (0.5-1-2 mm)
- Provides high sample homogeneity and repeatability.
- Robust construction.
- Perfect durability.

Features & Advantages

- CE certified.
- A hammer type laboratory mill which is used for sample preparation for Gluten washing, Falling Number, Protein and NIR applications.
- Grinds grains, pellets, meals, spices, oilseeds, feeds and forages.
- Reduced clogging by high performance motor
- · Motor is inside the box, thus Low noise level.
- Long lasting, durable,
- Cyclone outlet with filter bag to minimize dust
- Airflow feeder regulates feeding and facilitates grinding of large samples.
- Specific production for corn.

Door switch provides safe operation.

applications.

- · Convenient and rapid sample preparation.
- It provides possibility to grind samples up to 25%

Hammer type laboratory mill

for Gluten washing, Falling

Number, Protein and NIR

is used for sample preparation

- 300 gr in 30-50 seconds depending on sample type and the moisture content.
- Standart sieve is 0.8 mm for Falling Number, Gluten washing system and NIR analyses. Other sieves are also available upon request. (0.5-1-2 mm)
- By selecting different sieves, the particle size distribution in the sample can be varied.
- Long mill life.

Gluten Washer

GW 2400





Gluten Washer

GW 3200

Measures wet gluten for both ground grain and flour at breeders, grain traders, flour mills, flour users, wheat gluten manufacturers, pasta manufacturers and bakeries

Features & Advantages

durum, semolina.

- · CE Certified.
- Conforms to Official World Standards.
- · Automatic Dual Chamber System.
- · Stainless steel box. No corrosion!
- Measures wet gluten quantity of the wheat meal, wheat flour, durum, semolina

Measures wet gluten quantity

of the wheat meal, wheat flour,

- · Two different test methods in the same system.
- Rapid analysis. A complete test takes less than 7 minutes
- Adjustable mixing and washing time by mean of dip-switches

- Possibility to adjust mixing time from 5 up to 75 seconds and washing time from 60 to 900 seconds.
- Robust Design.
- Specially designed holes at the bottom panel enabling device to discharge the water, in the case of water pump tubes deterioration.
- · Ease of pump tube replacement
- · Segregation of grain and flour in terms of quality.
- Segregation of grain and flour in terms of wet gluten amount.

Features & Advantages

- CE Certified.
- · New design, Touch Screen Gluten Washer.
- New Design with no buttons.
- All commands can be performed by screen.
- Conforms to Official World Standards
- Automatic Dual Chamber System.
- Ease of Use.
- Stainless steel box. No corrosion!
- Measures wet gluten quantity of the wheat meal, wheat flour, durum, semolina
- Measures both ground grain and flour at breeders, grain traders, flour mills, flour users, wheat gluten manufacturers, pasta manufacturers and bakeries.

- $\bullet \quad \mathsf{Two} \ \mathsf{different} \ \mathsf{test} \ \mathsf{methods} \ \mathsf{in} \ \mathsf{the} \ \mathsf{same} \ \mathsf{system}.$
- Rapid analysis. A complete test takes less than 7 minutes
- Adjustable mixing and washing time by setting menu on Touch Screen Display.
- Possibility to adjust mixing time from 5 up to 75 seconds and washing time from 60 to 900 seconds.
- Robust Design.
- Specially designed holes at the bottom panel enabling device to discharge the water, in case of water pump tubes deterioration.
- Segregation of grain and flour in terms of wet gluten amount.



Dry Gluten DG 2020



Touch Screen



Determines gluten index in 1 minute.

Determines dry gluten.

Features & Advantages

- New design with 5" Touch Screen Display, first ever
- Displays 'real rotation rate' on the screen (6000 rpm) •
- Touch Screen Function provides ease of us
- 2 different display themes

- Centrifuges wet gluten using prepared international standardized method
- Determines gluten index in 1 minute.
- Stops automatically with a warning signal.
- · Locking safety lid provides safe operation.

- Dries wet gluten
- Heater and control unit are separate.
- Operates at 150°C.
- An accurate thermostat provides constant temperature
- Teflon coating provides effective drying and easy removal of sample being tested.
- Stops automatically warning with a beep signal.

Falling Number FN 7100



Falling Number FN 8100

Measure Falling Number and FFN.

Features & Advantages

and ensure quality.

Segregation of sound and sprouted grain to save money

- · CE certified.
- Large Color Touch Screen Display.
- All function buttons are one touch away. Easy to use.
- Measures FN conforming to international standards
- Single Analysis System.
- Segregation of sound and sprouted grain to save money and ensure quality.
- Automatic altitude correction and automatic recalculation of FN results.
- Moisture FN, Moisture GR, Mean Value, Liquefaction Number.
- Calculation of Blends, Sample ID.
- LAN connection.
- Print Out.
- Archive.

Possibility to perform;

- · Classical Falling Number Test in wheat flour and meal,
- Falling Number Test in wheat flour with Altitude
 Correction
- Falling Number Test in meal of wheat, durum, rye and barley with Altitude Correction,
- Fungal Falling Number Test to detect alpha amylase enzyme activity which is added to flour.

Features & Advantages

- · CE certified.
- New design Falling Number, 7" inch Touch Screen Display on the side.
- 3 different themes of display.
- · All function buttons are one touch away. Easy to use.
- Measures FN conforming to international standards.
- Single Analysis System.
- Segregation of sound and sprouted grain to save money and ensure quality

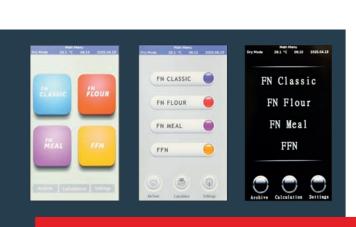
Possibility to perform;

- Classical Falling Number Test in wheat flour and meal
- Falling Number Test in wheat flour with Altitude
- Falling Number Test in meal of wheat, durum, rye and barley with Altitude Correction,

Falling Number FN 7200



Falling Number FN 8200



Dual Analyses

Measure Alpha Amylase activity in flour and whole meal.

Features & Advantages

- CE certified.
- · Large Color Touch Screen Display.
- All function buttons are one touch away. Easy to use.
- Measures FN conforming to international standards
- Dual Analysis System.
- Segregation of sound and sprouted grain to save money and ensure quality
- Automatic altitude correction and automatic recalculation of FN results.
- Moisture FN, Moisture GR, Mean Value, Liquefaction Number.
- · Calculation of Blends, Sample ID.
- LAN connection.
- Print Out.

Archive.

Possibility to perform;

- Classical Falling Number Test in wheat flour and meal,
- Falling Number Test in wheat flour with Altitude Correction
- Falling Number Test in meal of wheat, durum, rye and barley with Altitude Correction,
- Fungal Falling Number Test to detect alpha amylase enzyme activity which is added to flour.

Features & Advantages

- CF certified
- New design Falling Number, 7 inch Touch Screen Display on the side.

ERKAYA

- 3 different themes of display.
- All function buttons are one touch away. Easy to use.
- Measures FN conforming to international standards (ICC and AACC Standard methods).
- Dual Analysis System.
- Segregation of sound and sprouted grain to save money and ensure quality.
- Automatic altitude correction and automatic recalculation of FN results
- Correction of sample weight both for 15 % and 14 % moisture basis and FFN test.
- Moisture FN, Moisture GR, Mean Value, Liquefaction Number.
- Calculation of Blends, Sample ID

- LAN connection
- · Optional Print Out.
- Archive.

Possibility to perform;

- Classical Falling Number Test in wheat flour and meal
- Falling Number Test in wheat flour with Altitude Correction,
- Falling Number Test in meal of wheat, durum, rye and barley with Altitude Correction,
- Fungal Falling Number Test to detect alpha amylase enzyme activity which is added to flour.

Shakematic FN7



Used for preparing homogenous samples for Falling Number Test.

Features & Advantages

- · Automatic shaking.
- Reduces operator influence on results.
- · Reduces total analysis time.

Cooling Unit CL 5



Reduces water consumption to practically zero.

- A Falling Number accessory.
- Reduces water consumption to practically zero and makes it possible to place
- FN units almost everywhere.
- Water re-circulation prevents water consumption and protects environment.



Sedimentation Device ZL 120 Sedimentation device is used for determining gluten quality and hazardous insect damage.

Features & Advantages

and the bran.

- · CE certified.
- Rolls are to grind the wheat, a specially designed sieve to separate the standard flour and the bran.

a specially designed sieve to

separate the standard flour

- 2 different collectors stocking flour and the bran separately.
- Performs the test with the flour efficiency of 55-70 % depending on the wheat variety and the moisture content.
- Possibility to grind dampened wheat up to 16-17 % moisture content.
- · Possibility to see grinding by the glass front panel.
- · Possibility to adjust the feeding rate according the moisture content or particle size of the wheat.

Features & Advantages

- The system is used for determining gluten quality and hazardous insect damage.
- LCD display with 6 lines.
- 6 timers
- 40 rpm induced motor enables system to perform the tests with standard 40 rpm rate, regardless of the load on the device.
- Every timer has a led being active when it is operated.

- The device enables operator to run only the timer without operating the motor.
- it stops automatically warning with a signal.
- It operates the test with standard angle.
- Possibility to measure both sedimentation and modified sedimentation value.



Ash Furnace

PLF 100-3





Measure protein amount in sample flour based on Kjeldahl method



Measure ash content in sample.

KJELDAHL NITROGEN DISTILLATION UNIT;

- Kjeldahl nitrogen protein determination device is programmable microprocessor controlled
- 7"inch Touch Screen display.
- The Kjeldahl nitrogen analyzer tube reservoir is suitable for working with 100 ml, 300 ml and 800 ml tubes.
- Distillation time can be set between 0-15 minutes.
- Adjustable amount of alkalis to add.
- Steam generator is 1100 Watt power.
- The front of the device is made of transparent plexy glass
 material
- The water consumption of the Kjeldahl nitrogen protein determination device is 3 liters / minute.

KJELDAHL NITROGEN DIGESTION UNIT;

- The outer shell of the device is made of stainless steel and is heat insulated.
- The Kjeldahl nitrogen protein determination device can be run at the same time with 8 different samples.
- The device has electronic thermostat. Working temperature can be adjusted up to 450°C.
- There are integral gas discharge systems on the combustion tubes.
- The work area temperature can be monitored via the digital display and the program recording feature is available
- The Kjeldahl nitrogen protein determination device is working with 100,300 and 800 ml
- Incinerators at a diameter of 50 mm.

- Temperature range is up to 1000 °C.
- 3 liters of inner volume
- Easy operation and double skin construction to maintain a cooler outer case.
- Low thermal mass insulation leads to an impressive heat up rate as well as efficient insulation.
- Chamber exhaust vent

- Temperature control provided either by PID or Programmable controls depending on customer requirements.
- A vertical counter balanced door, keeps the hot insulation away from operator, while opening upwards.
- Safety switch isolates power when door is opened.



Sieve Shaker S 200



Mixer MX2

Tempering grain and mixing flour additives for further grinding process.

Possibility to check the sieving system in the mill and the production.

Features & Advantages

- · Adjustable timer 0-99 minute.
- Polyamide frames, durable, long lasting, easy
- Possibility to check the sieving system in the mill and the production.
- Possibility to adjust the roll distances.
- Possibility to use requested mesh sizes of sieves according to milling diagram.
- Delivering 6 frames and 1 collecting container.

- · Orbital movement, eccentric system.
- · Digital control unit displays test time.
- · Test ends warning with a beep signal.
- Start, Stop and Timer options.
- Frames are of 30 cm diameters.
- · The collecting container can be mounted under any pulley to be able to research requested analysis.
- · No need to fix the machine. It keeps stable with non-slippery mounts.

- Timer to arrange mixing time.
- Automatically stops. No need to monitor the process.
- 2 and 10 liter of capacities are available.
- Optimal tempering.
- Suitable for flour additive R&D. Efficient mixing of flours and additives.

Nilemalitre

NL1



ERKAYA

Measures specific weight of grain.



Measures hectoliter of grain which is the weight of a 1 liter of kernel.

Features & Advantages

- Hectoliter weight, a measurement of the mass per unit volume.
- Specific weight of grains.
- · Suitable for cereals, oily seeds, crops and other granular products.

- Hectoliter is the weight of a one liter of kernel such as wheat, corn, etc.
- A very important quality parameter at purchasing
- The result depends on the particle size, density and Short analysis time. the kernel quality.
- The system is composed of a digital balance, a cutting blade and a float.
- Conforms to standards having an exact 1 liter of volume.

e-Vac



Features & Advantages

It takes samples from the

storages, trucks and ships

 The hazelnut, wheat and other grain can be transferred from storages automatically by vacuum and stored into the sample container.

Vacuum Sampler

- For wheat and other grain samples, the device can be operated by mounting a grain accessory into the device.
- The samples can be taken from a depth of 5-25 meters by vacuum.
- 5 aluminum pipes, 1 aluminum bend, 1 pushing-pulling material, 1 pipe expanding wrench and

- 1 bag are supplied with it.
- The length of the pipes are 1 m.
- It can be used even in the storages having a low ceiling height.
- Portable
- Capacity of collecting is 110 kg of grain sample

ERKAYA

Features & Advantages

- It provides representative and repeatable samples form ships, rail cars, trucks, tubs, bulk-bags or other vessels.
- Sample probe is mounted on the swivel stand and boom which are powdered in three axes.
- The system can operate in 2 different modes which are automatic and manual mode.
- Pressure sensor adjustment at bottom of the truck.
 Vacuum is provided by a functional blower (3 kw)
- Telemechanique PLC provides ease of use.
- Remote control is optional.
- In the manual mode, it is possible to choose the depth where you can start sampling.

- The grain amount which system takes depend on density and the moisture.
- The system can move 120° right to left and 120° left to right (totally 240°.
- It can move upwards and downwards.
- The probe strand has 240 cm length and by means of telescopic arms it is possible to extend the probe strand up to 500 cm.
- · The probe has 220 cm length.
- High performance vacuum systems can take sample from different depths and transfers to the collector in laboratory.





Boerner Type Divider

It divides the grain into two equal parts homogeneously.

Features & Advantages

equal parts.

• Rifle-type sample divider can be used to divide or halve samples of grain-type crops, agricultural seeds granules, flours and powders into representative subsamples

Divide Grain sample in two

- The sample is divided 1:1 in each pass
- Exit into two different collection containers
- Suitable for granulates, flour and powder
- Portable
- Completely electrostatic painting is supplied with 2 identical collection containers.

- Made up of brass and copper.
- The sample to be analyzed is placed in the hopper.
- It is dispersed over the cone.
- It divides the grain into two equal parts homogeneously

Doses in high quantities.

Dosing Machine

ED SERIES

ED 110/120

Suitable for dosing enzymes, ascorbic acid and vitamin premixes.

Features & Advantages

Completely Stainless-Steel Body.

- Protects food hygiene.
- Suitable for dosing enzymes, ascorbic acid, wheat gluten, soy flour and other ingredients added in large quantities.
- 1-3000 g/min accurate dosing capacity.
- · High performance induced motor.
- ABB-ACS150 Speed Control Device.
- 30 kg capacity of dosing cell.
- 2 carrier screws for each machine.
- Level control window.

Stainless steel body.

- Protects food hygiene.
- Available for dosing of ascorbic acid, wheat gluten, soy flour and other ingredients to be added in large quantities.
- 100-5000 g/min accurate dosing capacity.
- ABB-ACS150 Speed Control Device.

ERKAYA

- 200 lt capacity of dosing cell.
- 2 carrier screws for each machine.
- Level control window.
- 2 Sensor for additive levels.
- Blue and red color lamps signaling according to additive levels.
- · Alerting when additive level is low.
- Equipped with an additional motor upside providing vertical mixing in order to avoid clogging inside the hopper.
- The robust design and the easy construction assure high reliability
- It is put on production line before transfer to storage silos or packing unit.
- · Confirmed Supplier to United Nations.

Small Carrier Screw			Big Carrier Screw	
Model	Hz	Dosing Capacity (gr/dk)	Hz	Dosing Capacity (gr/dk)
ED 110-18 rpm:	70	32,5	70	374
	10	3,5	10	37
ED 120-56 rpm:	70	160	70	1165
	10	15	10	115
ED 140-85 rpm:	70	240	70	3000
	10	25	10	330

SEINES

Phosmatic -**Fumigator** E 01

Used for spraying grains with fumigants during purchase of grain to silo or grain transportation from one silo to



- Easy handling.
- Measures wheat, wheat flour, barley, corn, rye, sunflower, as well as other grains.
- Exact measuring results.
- Automatic temperature correction.

Features & Advantages

- High measuring range up to 30 % moisture.
- 14 calibrations
- Four of the fourteen product programs can be selected from over 180 available products for your HE $\,$ 50, e.g. cargo, peanuts, milo corn, green coffee etc.

Measures moisture of wheat,

flour, barley, corn, etc.

• This allows a universal application of the HE 50 for grain, grass, vegetable and flower seeds, etc.

Features & Advantages

another.

- Used for spraying grains with fumigants during purchase of grain to silo or grain transportation from one silo to another. Possibility to adjust the number of tablets which will be dosed in a minute by means of GEMO on control panel.
- Possibility to adjust the rate as 1 tablet per (1-999)
- The cell contains 3000 gr of fumigant which is 1000 tablets.

- · Larger cells are available upon request.
- The running time and the waiting time can be adjusted by speed controller.
- Tablet outlet diameter can be produced accordingly.
- Tablets are isolated from external environment.
- The device can be placed on the line from purchasing point to the silo, grain band or somewhere between silos.

NIT Whole

Analyzer 3000 B

NIT Flour Analyzer 3000 F



The CropScan 3000F is a bench top NIR analyzer designed for rapid measurement of protein and moisture in wheat,

CropScan 3000B Near Infrared Transmission Analyser is designed to measure protein, moisture,

starch, fiber vand oil in whole grains of wheat, barley, canola, sorghum, oats, triticale, soybean, corn, rice, peas, beans etc.

Features & Advantages

 Up to 30 sub scans can be collected for either grains or powders and averaged to provide excellent accuracy and precision.

barley and other cereal grains

- · Protein and Moisture in Wheat
- Protein, Moisture, Ash, Water Absorption and Starch Damage in Flour and Semolina
- · Specks in Flour and Semolina.
- Protein and Moisture in Meals.
- Protein, Moisture, Oil and Starch in Soybeans, Corn, Rice and other grains and oil seeds.
- Protein, Moisture and Oil in Corn Flour, Rice Flour,
 Soybean Meal and other processed grain products.

- Touch Screen Operation.
- Once the NIR analyser has predicted the required parameters, the software prompts a set of customised data fields. The operator enters the following information: Sample ID, Test Weight and Screening Weight, Storage Location, Variety, Grade, Source (Farm, Paddock or Supplier), Truck ID
- Once the data fields are completed, the information is stored in the on-board memory. Reports are available at the press of a button for; Tabulated results, Spectra, Trends Plots, Bin Averages for each silo, bunker or shed...

Features & Advantages

- The built in Touch Screen PC provides a means of measuring a wide range of grain samples but also
- Adding storage and quality information about the grains, including; Test Weight, Screening, Retention,
- · Variety, Grade, Tonnage, Storage Location.
- The CropScan 3000B uses a pour through measuring cell that has an automatic pathlength selection
- for each grain type.
- Once the product has been selected, the CropScan 3000B adjusts the pathlength of the measurement cell to provide an optimum scan.
- The CropNet software posts the data to the internet where it can be viewed remotely using a Smart

- A weighbridge monitor can be connected to the Cr3000B via a USB port and cable, so that load weights can be taken automatically.
- The CropScan 3000B can be connected to a second screen where the CropNet Grain Data Management software runs in parallel to the Cr3000B operating software.
- Alternatively, a Bar Code Reader and a Scale can be connected to the Cr3000B USB ports for recording bag weight and ample ID as used in field trial testing.
- · Phone, Tablet or PC.



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