Brabender® GmbH & Co. KG
The leading supplier for food quality testing instruments

✓ precise
✓ flexible
✓ easy
✓ time-saving
✓ space-saving

Brabender Farinograph®-TS with Aqua-Inject
Our new, small Farino®

...where quality is measured.
Brabender Farinograph®-TS with Aqua-Inject
Agenda

- Brabender at a glance
- Farinograph – what is it about?
- Water dosage System ‘Aqua-Inject’
- New Measuring Mixer S 300
- Metabridge Software
- New Method – Gluten free and pseudo cereals
- Conclusion

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Brabender® GmbH & Co. KG
The leading supplier for food quality testing instruments

- Founded in 1923
- Family-run enterprise, headquartered in Duisburg (Germany)
- One of the world’s first supplier of grain and wheat flour testing instruments
- World market leader for food quality testing instruments, also provides instruments for the chemical industry
- Instruments for sample preparation, grain reception, quality control and extrusion
- Application laboratory for customers
- High focus on service and customer-individual software development

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…where quality is measured.
1928: The First Farinograph®
World's first wheat and wheat flour quality tester

1998: Farinograph®-E
The Farinograph® has been continuously developed

2017: Farinograph®-TS
Still the most-used instrument of its kind

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The Brabender® 3-Phase-System simulates the production of bakery products on a laboratory scale – integrated and practice-oriented

- Phase 1 – Farinograph®: gives information about the flour water absorption and the mixing characteristics of dough
- Phase 2 – Extensograph®: determines the stretching properties of dough and baking behaviour during baking
- Phase 3 – Amylograph®: measures the gelatinization properties of starch and the enzyme activity in flour

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- Laboratory mills for sample preparation
- Instruments for grain reception tests (e.g. moisture testing)
- Instruments for flour quality tests
- Rheological equipment for dough quality testing
- Starch quality testing instruments
- Laboratory extruders

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Brabender® GmbH & Co. KG as the holding company

- Two sister companies located in Duisburg
- Subsidiary in South Hackensack (New Jersey, USA), further subsidiary in Russia planned
- 450 employees in total
- 80 sales agents represent Brabender® in 116 countries
- Export share of over 80 %

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Brabender Farinograph®-TS with Aqua-Inject
State of the art quality control

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What does it measure?

The Farinograph® measures the flour water absorption and the kneading characteristics of dough.

Why is this important?

- Estimation of the optimum water amount for a flour to form a dough
- Prediction how a flour will react in different stages of production and baking
- Definition of flour specifications for a given purpose
- Assurance of stable product quality

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The test procedure:

- A flour sample is weighed and placed into a mixing bowl
- Water is added to the flour and mixed to form a dough
- A curve is recorded, according to the resistance of the dough against the mixing action
- The shape of the curve gives information about:
  - the water absorption of the flour
  - the dough stability
  - the development time
  - the degree of softening

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Brabender® Farinograph®-TS
The curve

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The Farinogram helps you to determine the right application for the analyzed flour

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Working without glass burette:

The Aqua-Inject is an add-on instrument for use with a Brabender Farinograph-TS and can be used for the Measuring Mixer S 300.

- Automatic dosing of water (0.3-2000 ml)
- High reproducibility
- Precise temperature control of the dosing water – no additional thermostat
Advantages

✓ High accuracy (better than 0,1%)

✓ Electronically controlled, constant water temperature of 5° (with external thermostat) to 50°C (± 0,2°C)

✓ Dosable quantity of water (0,3-2000 ml)

✓ Easy servicing and cleaning

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Brabender® Farinograph®-TS
New Measuring Mixer S 300

Advantages

- Enhanced usability: Slim design and low overall weight
- Optimized temperature control
- Sensor technology upon customer request

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The new MetaBridge® software:

- Ready to use: no installation necessary
- User-friendly interface
- Accessible by multiple users from different locations
- Compatible with different types of end devices
- Updatable on-line

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Multi-access and multi-monitoring

✓ Allow your colleagues to access the MetaBridge® and monitor tests simultaneously

✓ Conduct and manage measurement jobs on several instruments at a time

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Software compatibility

MetaBridge is compatible with all presently available tablets* and/or smartphones*:

- Apple iOS, iPhone / iPad / Mac
- Windows 10 / Win 7, 8, XP
- Android all versions
- Linux all versions
- BlackBerry

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Remote access for support services – saving time and money

✓ Problem rectification without on-site appointment: Our service technicians can rapidly access your instruments via the MetaBridge® in the event of a malfunction

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Where quality is measured.

Brabender® Farinograph®-TS
Benefits of the new Farinograph®

Standard ports, connected with the Build-In-PC

- 4 x USB
- (Mouse, WLAN, keyboard)
- 1 x HDMI (screen)
- 1 x LAN (network)
Small and compact housing

→ Low space requirements

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Configure your ideal Farino from the basic to the comfort version

Screen configuration

- Farino-TS without touch screen
- Farino-TS with touch screen

Water dosing system configuration

- Farino-TS with burette
- Farino-TS with Aqua-Inject

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Our new, small Farino® features:

- Modular design: touch screen or external screen
- New browser-based software: MetaBridge®
- Build-In-PC
- Small and compact housing
- State-of-the-art drive
- Aqua-Inject

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Gluten free Packaged Food, potential growth markets:

**Bakery products 2014-2019**
1. USA (15 % / Year)
2. UK / Australien / Italy (each 7 % / Year)
3. Germany (5 % / Year)

**Noodles 2014-2019**
1. Italy (29 % / Year)
2. Germany (14 % / Year)
3. USA / Venezuela (each 12 % / Year)

Quelle: Euromonitor International, 2014
(except: goods which do not contain natural gluten)

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Wheat
• Durum & soft wheat
• Semolina, Flour, Wholemeal

Rye
• Flour, Wholemeal

Maize
• Flour yellow and white

Rice
• Flour

Oat, Barley, Sorghum
• Flour

Cereals:

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Pseudo cereals:

- Buckwheat
- Quinoa
- Amaranth

Legumes:

- Beans
- Lentil
- Peas
- Soy
- etc.

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Measuring the water absorption on kneadable (Gluten free) doughs with the Farinograph

**General Requirements:**
- Farinograph -E, -AT or -TS
- Thermostat
- Filling piece for 300 g Mixer

**Parameter settings (sample):**
- 30°C waterbath temperature
- 63 rpm speed
- 200g sample size
- 1000 BU target consistency

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Details of the assembly unit at kneader S300 with filling piece

...where quality is measured.
Result for a test measurement with legume...where quality is measured.
Results for a tests measurement with legumes

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The Farinograph® offers you lots of worthwhile benefits:

- Quality assurance:
  - Compliance with international standards
  - Optimization of flour quality
  - Constant product quality

- Cost saving:
  - Saving flour in production
  - Minimizing production losses
  - Optimized mixing time saves energy

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The Farinograph® offers you lots of worthwhile benefits:

✓ Best profit:
  ✓ higher flour price
  ✓ more baking products and higher yield
  ✓ Perfect dough
  ✓ Satisfied customers

The Brabender® Farinograph®:
Reliable flour quality control since 1928

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Conclusion

- Raw materials do not have good or bad technological properties, but there is a right or wrong application for them.
- Brabender® is your partner when you want to find the right application for the supplied grain and the produced flour.

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Brabender® GmbH & Co. KG
Discover our Allround Solutions!

Any questions?
Feel free to contact our team!

By the way, we cordially invite you to have a look at
the other Brabender® solutions presented at our booth!

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