

# Brabender Farinograph-TS

User-friendly flour and dough testing  
standardized worldwide



ICC-Standard No. 115/1  
AACC Method No. 54-21.02  
AACC Method No. 38-20.01  
ISO 5530-1 and more

**Brabender®**

... where quality is measured.



# Brabender Farinograph-TS

For the analysis of gluten-containing and gluten-free flours in compliance with international and national standards for quality testing.

The Brabender Farinograph is one of the world's most important and well known instruments for the determination of water absorption in flour and the rheological properties of dough. The accuracy, reliability and reproducibility of the test results are important for technical dialogue in successful business relationships between the producers and suppliers of flour products in increasingly global markets.

The Farinograph-TS is operated via a touchscreen through the browser-based MetaBridge software. The Aqua-Inject offers a time and automation advantage over the manual burette. Thus, you achieve precise measurement results with a high information content with the Farinograph-TS.

## Principle

The instrument consists of a drive unit with continuous speed control and an attached measuring mixer for mixing the dough to be tested. The mixing resistance is measured as torque, according to the viscosity of the dough. This enables water absorption, dough development time, stability, fermentation tolerance and the degree of softening to be reliably depicted in the Farinogram. The MetaBridge software records these measurements vividly, enabling monitoring, analysis and documentation of the measurement data – on the equipment itself, or, if required, on external desktop or mobile end devices.



## Highlights

### Flexible

- Measurement of soft and durum wheat according to standard specifications, analysis of gluten-free flours
- Mixers for different sample sizes (300, 50 and 10 g)
- Aqua-Inject automatic dosage system or manual burette

### User-friendly

- Small footprint
- Operation via touchscreen
- Powerful built-in PC
- Preinstalled, ready-to-use MetaBridge Software

### Automized

- Automatic creation of titration curve (when Aqua-Inject is used) instead of various manual attempts
- Smart Workflow: Automatic transfer of measured values between Brabender devices
- AutoCalibration: Autonomous mixer maintenance within one hour

### Connective

- Support of legacy Brabender devices and 3rd party systems (e. g. LIMS) via Web API
- Data backup in local network or cloud solution

# Applications

The Farinograph measures the quality of different types of gluten-containing or gluten-free flours as well as the influence of different additives on the rheological dough properties.

## Flours containing gluten

- Wheat
- Rye
- Spelt

## Gluten-free flours

- Corn
- Rice
- Buckwheat
- Pulses
- Millet
- etc.

## Influence of additives

- Salt
- Sugar
- Lipids (e.g. peanut oil)
- Yeast
- Enzymes
- Emulsifiers
- Vital gluten
- Fibres
- Proteins (from pulses)
- etc.

## The Brabender 3-Phase-System

The Farinograph is the first phase of the reknown 3-Phase-System, which depicts the production of bakery or pasta products on a laboratory scale in a holistic and practical manner.

### Phase 1 (Farinograph-TS)

Water absorption and kneading characteristics of dough



### Phase 2 (Extensograph)\*

Stretching properties of dough, prediction of the baking volume



### Phase 3 (Amylograph)

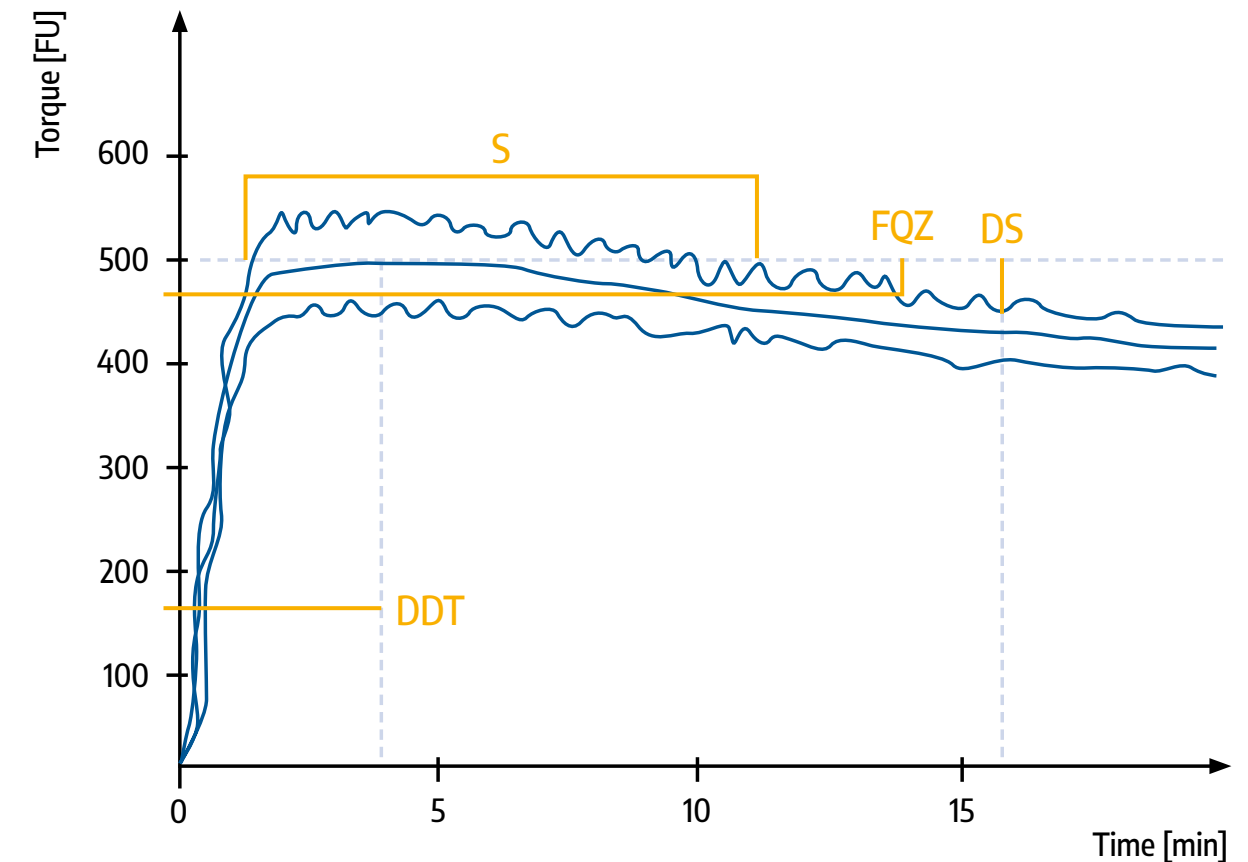
Gelatinization properties of starch, enzyme activity and bakeability of flour



\* For the performance of an Extensograph test, the Farinograph is used to prepare the dough sample

# Evaluation

The Farinogram shows the quality characteristics of the analyzed flour.



## Water absorption (WA)

The more water a flour can absorb, the higher the dough yield. The WA is also critical for the intended use of the flour, e.g. the WA of wafer flours is much lower than the WA of bread flours.

## Dough development time (DDT)

Describes the time from the start of water addition until the maximum consistency is reached. The optimum kneading time of the dough results from the DDT and the stability. Weak flours have a shorter kneading time than strong flours.

## Dough stability (S)

The longer the stability of the dough, the higher the fermentation and kneading tolerance and the stronger the dough must be kneaded. The stability gives an indication of the optimum kneading time in the production process.

## Degree of softening (DS)

Calculated 12 minutes after the dough has reached the maximum Consistency is calculated. The greater the degree of softening is, the shorter is the proofing time. Doughs with low DS have a better dough level and can be more mechanically stressed.

## FarinoGraph Quality Number (FQN)

The FQN can be used to describe the characteristics of a flour with just one figure.

# Mixer attachments and accessories



## Measuring Mixer S 300

- For standard Farinograph test (300 g) in line with ICC, AACC, ISO
- Also for kneading dough for Extensograph tests
- Removable blades



## Measuring Mixer S 50

- For standard Farinograph test (50 g flour) in line with ICC, AACC, ISO
- Removable blades



## Measuring Mixer S 10

- For standard Farinograph test involving small sample quantities (10 g)
- Suitable for breeders and R&D purposes



## FarinoAdd-S300

- Upgrade kit for the Measuring Mixer S 300 to test the quality of kneadable doughs and gluten-free flours



## Aqua-Inject

- System for automatic and precise water dosage
- Enables creation of automatic titration curves
- Compatible with 300 g mixer

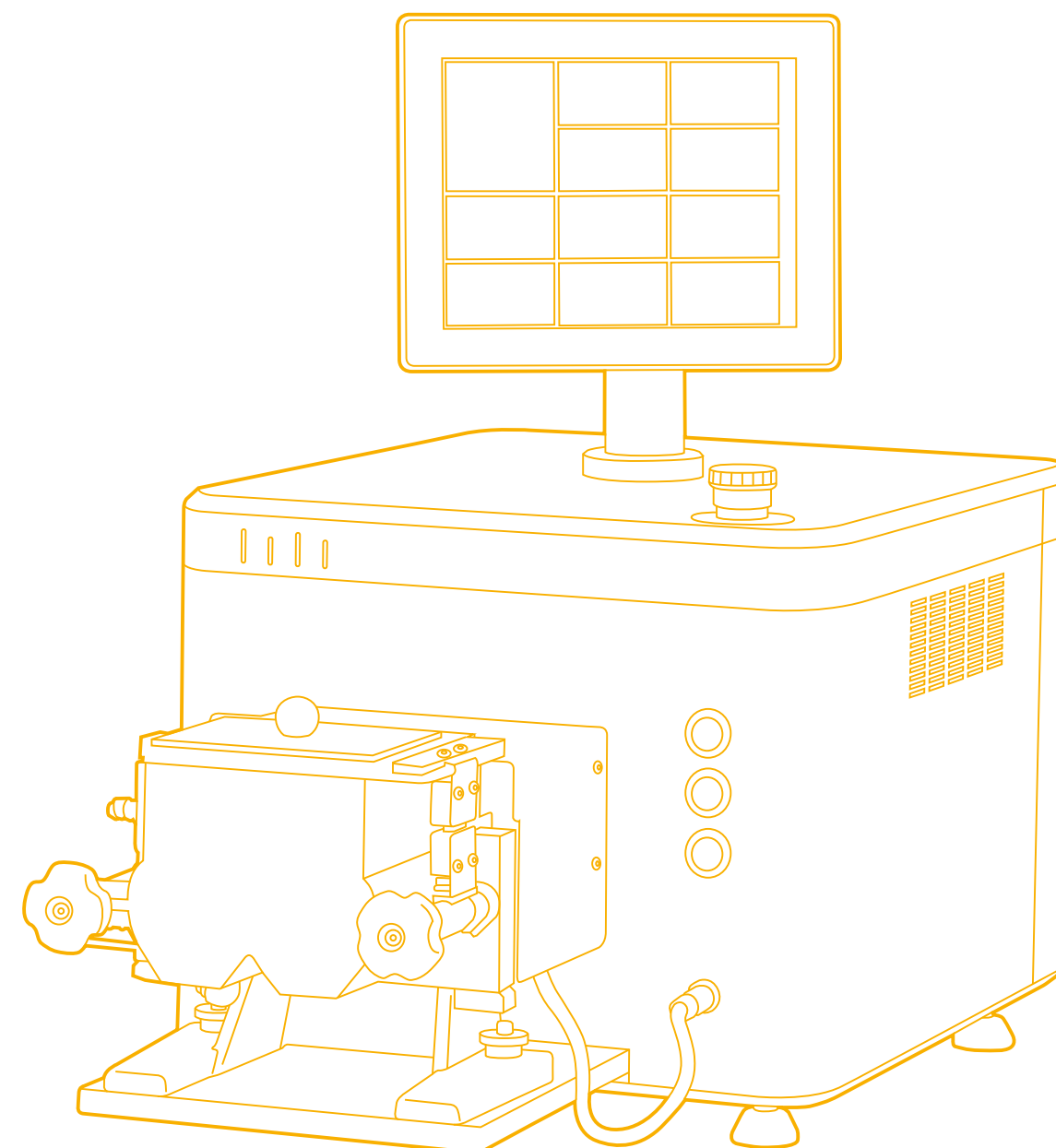


## Corio CD-200F

- Heating/Refrigerated – Heating Circulators
- High-precision temperature control
- In compliance with DIN 12 876-1

## Technical data

- Speed: 0 - 200 min<sup>-1</sup>
- Torque: 20 Nm
- Power supply:
  - 1 x 230 V; 50/60 Hz + N + PE; 5,2 A
  - 1 x 115 V; 50/60 Hz + PE; 10,4 A
- Dimensions (WxHxD): 470 mm x 553 mm x 700 mm (with touchscreen)
- Weight: approx. 45 kg (without mixer), with S 300 mixer: approx. 63 kg
- Interfaces: 4 x USB, 1 x HDMI, 2 x LAN





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