

think process!

**WP** Kemper

# KRONOS digital



**WP** BAKERYGROUP

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## KRONOS digital– the intelligent mixer

The mixer that independently stops the mixing process at the optimal time.

Target group: Customers that suffer from changing dough qualities caused by staff or raw materials.

- ❖ Operation as a single mixer or within the KRONOS LINEAR SYSTEM
- ❖ Use of existing KRONOS / PRESIDENT / TITAN bowls possible

Size // Dough quantity (kg)	Flour quantity (kg) maximal	Flour quantity (kg) minimal
240	150	15

## 2. Doughs

- ❖ Wheat doughs
- ❖ Mixed wheat doughs

Dough absorption: from 45% up to extra soft doughs



## We teach the mixer to feel

- ❖ For an efficient and independent mixing process, the mixer must independently adapt to the condition of the dough
- ❖ Sensors continuously determine the dough conditions during mixing
- ❖ Continuous control of the mixing process based on measured dough properties
- ❖ Independent adaptation and ending of the mixing and kneading phases with fluctuating raw material quality and environmental conditions through the mixer (maximum / minimum values can be set if required)
- ❖ Continuously updated forecast of mixing duration and final dough temperature

## Indicators

### Temperature profile

- ❖ Measurement via PT100 in the guide bar
- ❖ Minimal dough temperature ends the mixing phase and starts the kneading phase (previously purely time-controlled)
- ❖ Prediction of the temperature profile during the entire mixing process

### Torque curve

- ❖ Torque maximum corresponds to the optimum dough condition and ends the mixing phase (previously time controlled + know-how of the baker)

### Engine speed control

- ❖ For controlling a constant speed of spiral and bowl

### Energy intake of the dough

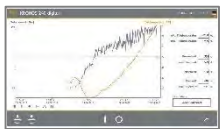
### Ultrasound filling level control

- ❖ To determine the real dough volume

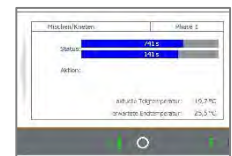
# 4. 5 Reasons KRONOS digital



Optimal  
dough quality



Complete  
logging



Independent  
adaption



One bowl



Easy  
control

# 4. Reasons for KRONOS digital

## Optimal dough quality

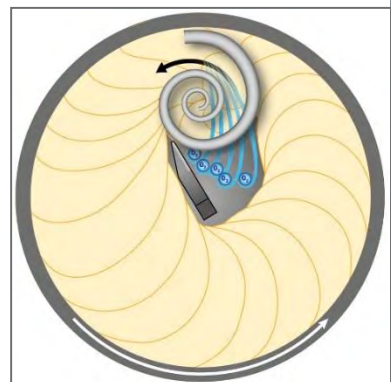
### Reproducible dough quality

- ❖ Automatic stopping of the mixing process at the optimal time
- ❖ By means of defined parameters, doughs of the same quality are produced with each mixing process



### 3-zone mixing principle

- ❖ Quick, intensive mixing of the ingredients
- ❖ High energy intake in the mixing phase
- ❖ High oxygen supply ensures stronger glue formation and greater proofing stability
- ❖ Dry doughs
- ❖ Easy to process / machine usable doughs

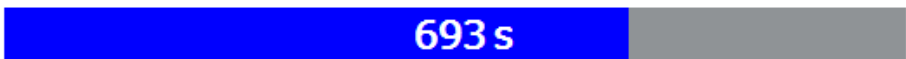




# 4. Reasons for KRONOS digital

## Independent adaption

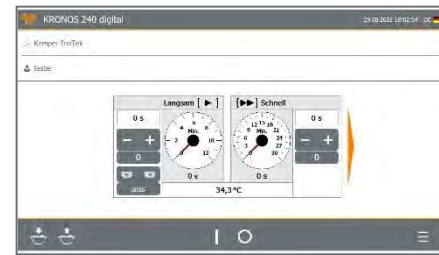
- ❖ Automatic adjustment of mixing and kneading times to fluctuating raw material and environmental parameters
- ❖ Change in kneading and mixing times based on the dough properties and not after fixed times

Mixing/Kneading	Phase 1
Status:	
Action: --	
	Temperature: 65.0 °F
	Approximated Endtemperature: 85.0 °F

# 4. Reasons for KRONOS digital

## Easy operation

- ❖ Input of three recipe parameters → type of dough, degree of mixing, batch size
- ❖ Only start of the mixer
- ❖ No master baker necessary
- ❖ Mixing results independent of staff



# 4. Reasons for KRONOS digital

## One bowl

### Bowl compatibility

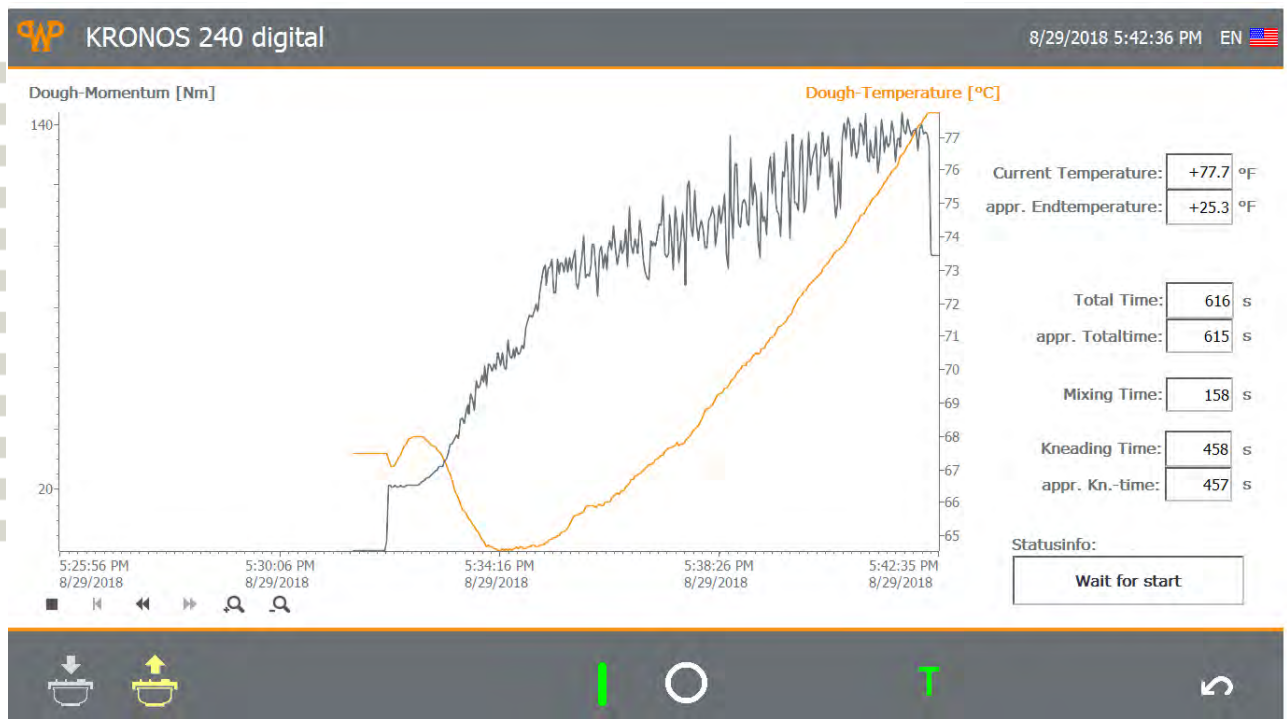
- ❖ Use of existing KRONOS / PRESIDENT / TITAN bowls
- ❖ Bowls among themselves exchangeable
- ❖ Use of existing bowl tipper possible
- ❖ Bowl equipped with rubberized rollers for a smooth run
- ❖ Easy handling - easy to drive and steer



# 4. Reasons for KRONOS digital

## Complete logging

- ❖ Logging of energy intake, environmental temperature, dough temperature
- ❖ conclusions about production conditions and raw materials → extended process know-how



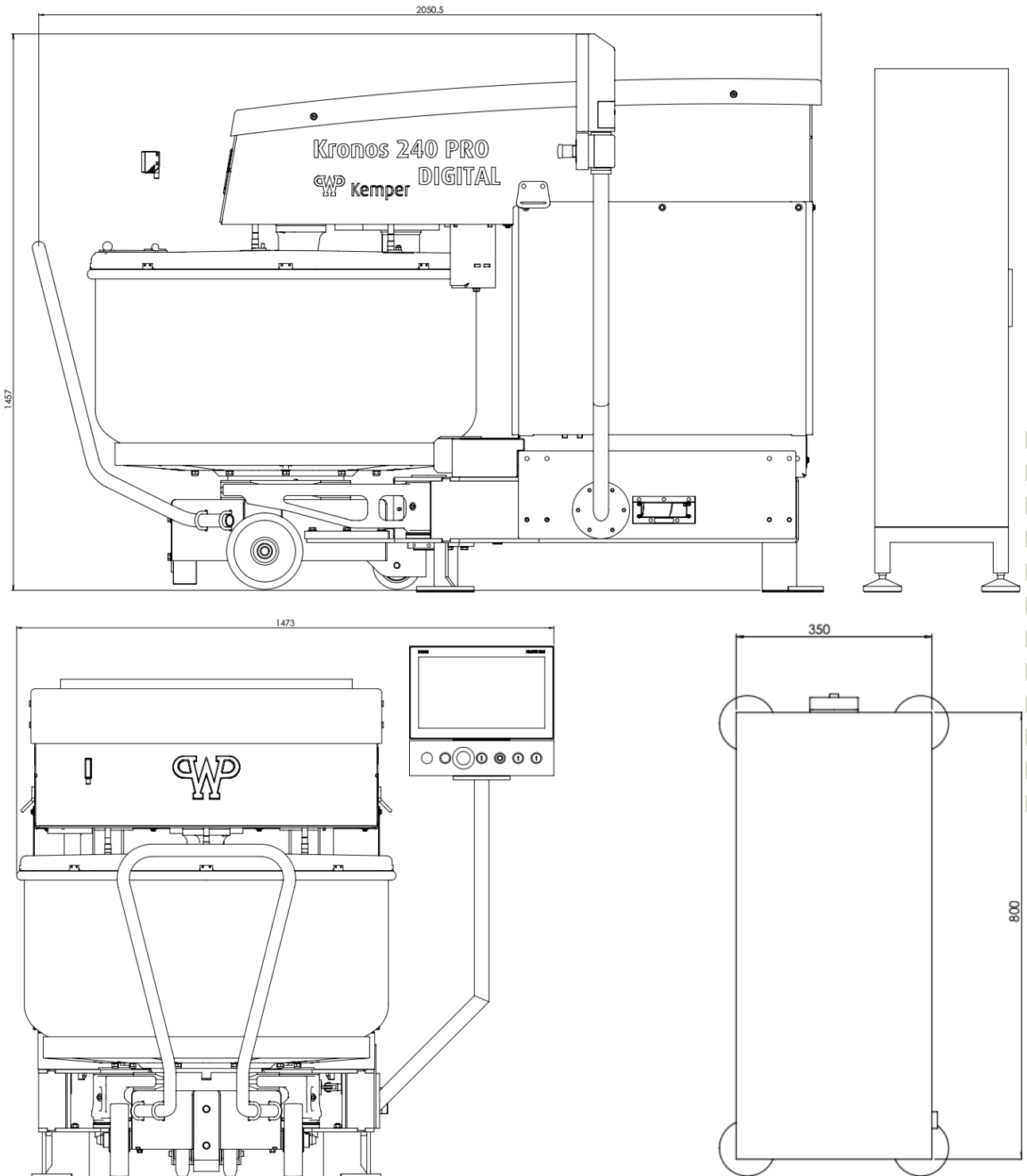
# 5. Configuration & Options



Configuration KRONOS digital	Basic	Option
Machine body stainless steel	X	
Machine cover plastic silver-grey	X	
Bowl cover plastic blue	X	
15" touch panel and INUS operating interface	X	
Temperature sensor PT100	X	
Multi-phase control	X	
Control cabinet separately, operating arm on the right side of the machine body	X	
Interface to higher-level MES	X	
Extra bowl with handle		X
Extra bowl without handle		X

# 6. Technical Data

## Dimensions KRONOS digital



# 7. The Baking Center

## Experience with all your senses!

True to the motto „*think process*“ the baking center offers the entire process for the production of baked goods.

From mixer to in-store ovens, we can work on a variety of products from the whole WP BAKERYGROUP.

Equipped like a professional bakery, the baking center offers the perfect setting for tests, demonstrations, seminars and events.

A team of experienced master bakers work together with you and your dough, in a relaxed atmosphere, on roll lines or bread lines, dough dividers or mixers.



## Prevention

Regular maintenance in accordance with the manufacturer's recommendations is key to ensuring consistently reliable production. This alone can reduce downtimes caused by machine failure by about 40%.

**The Goal:** Reduce machine downtime and make them predictable through proactive maintenance.



## Repairs

Faults can build up or just happen, no matter what precautions have been taken. When they do, it is vital to initiate and implement the necessary measures as soon as possible.

**The Goal:** Repair machine downtimes fast and thoroughly.



*think process!*

## **WP BAKERYGROUP**

**WP** Kemper

**WP** Haton

**WP** Riehle

**WP** Werner & Pfleiderer  
Bakery Technologies

**WP** Werner & Pfleiderer  
Industrial Bakery Technologies

## **UNSERE MARKEN**

**WP** DONUT

**WP** ROLL

**WP** TOAST

**WP** PIZZA

**WP** BAKER'S EQUIPMENT

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