Blending and mixing concepts for consistent flour quality and Bühler’s flour services.
Agenda.

1. Benefits of flour blending
2. Continuous flour blending system
3. Flour mixing with batch mixer
4. Flour services
Agenda.

1. Benefits of flour blending
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Benefits of flour blending.

- homogeneous and consistent flour quality
- tailor made flour according to bakers requirement
- Quick reaction time to individual customer requests
- Efficient way to produce a large variety of flours
<table>
<thead>
<tr>
<th></th>
<th>Agenda.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Benefits of flour blending</td>
</tr>
<tr>
<td>2</td>
<td>Continuous flour blending system</td>
</tr>
<tr>
<td>3</td>
<td>Flour mixing with batch mixer</td>
</tr>
<tr>
<td>4</td>
<td>Flour services</td>
</tr>
</tbody>
</table>
Continuous flour blending system.

Volumetric flour blending.

Characteristics:

- High throughput at low invest
- Low space requirements
- Low variety and high quality
- Simple recipes
Continuous flour blending system.
Gravimetric feeding with Graviscrew MSDR.

Characteristics:

- Gravimetric dosing and metering with continuous weight recording
- Low installation height
- Rugged design
- Accuracy approx. 1.5% if calibrated with a scale
**Graviscrew MSDK.**

*Function as flow regulator.*

![Diagram](image-url)

- Graviscrew MSDK
- Dosing screw with frequency controller
- e.g. feeder screw
- Weight controller
- Flow regulator

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*Mixing concept for consisting flour quality / Walter Bruggmann GM37 / IACOM Jordan 2011*
Application of Graviscrew MSDR.

Continuous blending flow regulation with weight recording.

Easy upgrade of existing finished product silos
**Differential dosing scales.**

*Loss-in-weight principle with high accuracy*

MWBO

for main components

1 - 60 m³/h

MSDA

for minor components

0.2 - 6 m³/h

MSDA

for micro components

0.2 - 1000 dm³/h
Blending system with loss-in-weight feeder MWBO.

Principle of continues blending system with differential dosing scales (accuracy of batch scales)
**Agenda.**

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**Batch blending plant.**

**Where to use**

- Capacities up to 40 t/h
- Ideal for large varieties of recipe changes
- Recipe with many components (macro, minor and micro components)
Overview batch mixing concepts.

3-stages blending with weigher

2-stages blending with integrated weigher
Bühler’s new MRMA Sanimix.

<table>
<thead>
<tr>
<th>Achievement</th>
<th>Paddle Mixer (MKMA-P)</th>
<th>Chopper Mixer (MRMA-C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application</td>
<td>Dry mixes</td>
<td>Specialty mixer with solids dissolution</td>
</tr>
<tr>
<td>Useable volume</td>
<td>500ℓ</td>
<td>1000ℓ</td>
</tr>
</tbody>
</table>
High Sanitation.

- Smooth surface, no gaps, no pockets, no corners
- All parts in stainless steel
- No product cross-contamination
Access for cleaning.

- Large service door
- Easy access to all areas inside the mixer
- Fast opening and closing
- Short cleaning time
Quick emptying time.

- Emptying time less than 20 sec
- Residue free discharge
- Mixer opening over the entire bottom length
- Bottom flap drive element are placed outside the mixing chamber (no contact with product)
Premix – Mix line with 3 mixers.
Sanimix MRMA-4000-C.
Agenda.

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Flour services.
Tailor made flour.

Equipment / Technology / Training

Product improvements / Application / Training

Process Technology

Bühler flour services

Flour Technology

Total solution partnership
Bakery Innovation Center.
Flour blending plants.
Benefits for the miler.

- Homogeneous and consistent flour
- Tailor made to customer requirements
- Specialty flour carry higher margins
www.buhlergroup.com