Future proofing yogurt production
– reducing your costs and environmental footprint

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Tetra Pak
PROTECTS WHAT’S GOOD
The amazing world of yoghurt...
...and other fermented dairy products
A need for change

Consumer concerns about the future of the planet are on the rise

Margins are under pressure – costs continue to increase

Quality and innovation remains strong drivers

Source: Trendipedia Consumer Shifts 2022
High expectations on the industry

Be sustainable

Provide affordable products

With quality and differentiated product range

“You can’t get different results by doing things the same way”

Richard Moran

Source: Trendipedia Consumer Shifts 2022
Greater sustainability in your operations
Tetra Pak commitment

Our 2030 ambition
Best-practice line performance:

- 50% reduction vs. 2019
- 50% reduction vs. 2019
- 50% reduction vs. 2019
Examples of Equipment, Lines, Solutions and Services
...for more sustainable yoghurt production

**Equipment**
- Tetra Pak® Pasteurizer
- Tetra Pak® Homogenizer
- Tetra Pak® High Shear Mixer
- Tetra Pak® Inline Blender
- Tetra Pak® PlantMaster

**Solutions, Services**
- White water recovery
- CIP detergent recovery
- Service: VeriPlant (PTS)
- Upgrade: IntelliCIP

**SUSTAINABILITY PERFORMANCE AND OPERATIONAL COST REDUCTION**

Best-practice line for yoghurt milk with OneStep technology
Best-practice line for yoghurt milk with OneStep technology
vs conventional line

- 40% Lower investment cost
- 30% Lower running costs (utilities)
- 25% Reduced carbon emissions
- 50% Lower water consumption
- 50% Less floor space needed

... while making zero compromises on product quality or flexibility

Based on production scenario with line capacity 15 000 L/h, 8+8 h production/day, 300 days/year.
Scope of comparison: from feed of raw milk to output of yoghurt milk. Equipment for powder handling is not included.
Cost base: Electricity 0.18 EUR/kWh, Steam 0.042 EUR/kg, Raw milk 494 EUR/1000L
CO2 emissions are based on:
• electricity production generating 0,477 kg CO\textsubscript{2} equivalents per kWh (World average)
• heat production generating 0,202 kg CO\textsubscript{2} equivalents per kWh (Natural gas)
How it works
Conventional preparation of yoghurt milk

We now remove the need for this equipment …

...and integrate all key process steps in a continuous processing module
How it works
Best-practice line for yoghurt milk with OneStep technology

Separator, mixer and standardizer unit are integrated in yoghurt milk pasteurizer.

Unique design of Tetra Pak Pasteurizer D enable yoghurt milk with OneStep technology

Dry ingredients prepared in batch and continuously added to skim milk at Tetra Pak High Shear mixer.
Making zero compromises on product quality
Three challenges

1. Superior dispersion of powders with minimum incorporation of air
   - Tetra Pak High Shear Mixer with vacuum

2. Securing correct composition of yoghurt milk
   - Batch preparation of powders
   - Direct in-line fat standardization

3. Optimal treatment of the formulated yoghurt milk
   - Control of temperature and flow throughout the process
Inline addition of powder
Tetra Pak High Shear Mixer - batch type for continuous production

- Superior dispersal of powders
- Vacuum to minimize air incorporation
- Validated performance of powders

Air in the product

INDEX

150
100
30

- High speed blender with powder hopper
- Tetra Pak High Shear Mixer, no vacuum
- Tetra Pak High Shear Mixer, vacuum

Patented outlet
Securing correct composition of yoghurt milk in the fermentation tank

**DRY AREA / PREWEIGHED**

Bag tipping unit

**WET AREA**

Tetra Pak® High Shear Mixer

Continuous process but...

**Batch dosing of powders**

Powder for a fermentation tank is prepared in a batch hopper and added at controlled rate to secure target product composition in fermentation tank.
Securing correct composition of yoghurt milk in the fermentation tank

Tetra Pak Standardization unit with SpotOn-functionality

Detecting and handling disturbances from:
► Separator discharges
► Change of fermentation tank
Optimal treatment of the formulated yoghurt milk
Precise control of temperatures and holding time
with Tetra Pak Pasteurizer D

Full integration
and control of
all process steps

With guaranteed
performance from raw
milk to yoghurt milk.
From raw milk to yoghurt milk with OneStep technology
innovation with proven performance

- Proven in commercial operation
- Technology validated in in-house tests
- Applicable for all yoghurt varieties
- Patent pending

Enabling up to
- 40% Lower investment costs
- 30% Lower running costs (utilities)
- 50% Lower water consumption
- 25% Reduced carbon emissions
- 50% Less floor space needed
...compared to conventional line
Future proofing yoghurt production
... in small steps or giant leaps

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Questions?
Tetra Pak is a world leading food processing and packaging solutions company. Working closely with our customers and suppliers, we provide safe, innovative and environmentally sound products that each day meet the needs of hundreds of millions of people in more than 160 countries. With more than 25,000 employees around the world, we believe in responsible industry leadership and a sustainable approach to business.

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