



# Tetra Victenso™ continuous powdered infant formula line

Best-practice line for prepared food production



## Application

Our best-practice line for continuous production of powdered infant formula.

## Highlights

- Fast, accurate and consistent ingredient dosing technology
- Effective mixing and heat treatment for high production efficiency
- Efficient mixing technology enables consistent, accurate recipe management
- Direct heat treatment to maximize destruction of micro-organisms and minimize reduction of nutritional values and impact on taste
- Hygienic operations minimize down time
- Flexible spray drying handles a wide range of products with exact powder specifications
- Gentle powder conveying thanks to low shear rate prevents breakdown of powder particle size
- Prevents contamination by foreign materials
- Minimizes environmental impact by maximizing waste stream utilization

## Enables exceptional versatility, quality and efficiency

Our highly efficient and flexible infant formula powder line solution enables you to meet customer demands for a greater variety of safe, high quality and healthy products with greater convenience and lower environmental impact. Our unique proven solution combines several processing technologies for infant formula powder products provided by a Tetra Guerin™ pre-powder handling unit, a Tetra Almix® unit, a Tetra Therm® Lacta unit, a Tetra Therm® Aseptic VTIS unit, a Tetra Magna® MVR unit, a Tetra Scheffers® TVR unit, a Tetra Magna® TWB dryer unit and a Tetra Guerin™ vacuum dense phase conveyer unit.

## Line overview

### Combining several processing technologies

Tetra Guerin raw ingredient storage silo

Pre-powder handling



Tetra Almix

Powder dissolving



Ingredient blending



Tetra Therm Lacta

Pre-heating

Homogenization

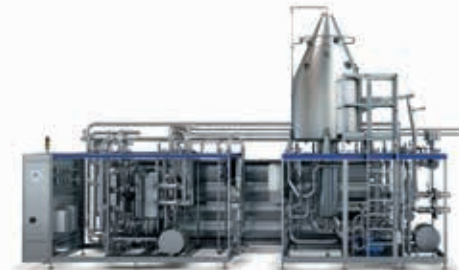
Final heating

Cooling

Tetra Therm Aseptic VTIS

Pre-heating

HTST heat treatment



## Process description

### Powder handling in Tetra Guerin powder silo system

- First in, first out
- Gentle powder storage in silos
- Gentle powder conveying
- Dry-cleaning – efficient cleaning with air

### Efficient preparation in Tetra Almix

- Powder dissolving – design of rotor/stator, agitator and vacuum system enable fast dissolving of water, powder, emulsifier, oil and stabilizer
- Ingredient blending – blending of raw materials such as proteins, carbohydrates, fat/oil blends and additional minor ingredients

### First heat treatment in Tetra Therm Lacta

- Pre-heating – indirect heating of product
- Upstream or downstream homogenization
- Efficient indirect final heating to required temperature
- Cooling – indirect cooling with cold water and ice water to required outlet temperature

### Second heat treatment in Tetra Therm Aseptic VTIS

- Pre-heating – indirect heating of product
- Final direct heating by steam from 80°C to 120°C, and maximum 140°C
- Holding before flash cooling
- Flash cooling in a vessel down to 81°C
- Indirect final cooling to required temperature

## Pre-concentration in Tetra Magna MVR

- Removal of water in single stage evaporator
- Driving medium – power
- Long running times and short CIP

## Evaporation in Tetra Scheffers TVR

- Multi-stage evaporator to remove water
- Driving medium – steam
- Superior hygienic design
- Minimum down time

## Spray drying in Tetra Magna dryer TWB

- Final homogenization
- High pressure atomization
- Agglomeration
- Drying

## Intermediate storage

- Powder transport
- Intermediate storage
- Dry blending
- Gassing

## Filling

- Hygiene bags
- Effective de-gassing air removal



### Suitable products

- All stages of regular and special baby food powders
- Fortified senior milk
- Non-milk and milk-based mixes with multiple ingredients

### Automation solutions for total control and top performance

#### Best-practice unit automation solutions

- Maximize efficiency and enable future-proof flexibility
- Enable complete control with full traceability
- Cut human error to a minimum and streamline your entire operation

### Tetra PlantMaster™ solutions enable even greater control

- Overview of process flowcharts
- Product routing and selections
- Advanced data logging
- Automated production reports
- Full traceability
- Easy preventive maintenance


### Tetra Navigato™ customized service solutions

We provide customized service solutions maximize your operational excellence, minimize your cost and environmental impact, and ensure the right product quality every time, throughout the lifecycle of your operation a complete range of services including:

- Automation services
- Environmental services
- Improvement services
- Installation services
- Maintenance services
- Parts and logistics services
- Quality management services
- Remote services
- Training services

### Guaranteed performance on parameters that matter

We guarantee the performance we promise, with key performance indicators based on your production scenario and pre-defined in a contractual agreement.

We reserve the right to introduce design modifications.  
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