Tetra Pak®
Standardization unit S4

Direct in-line standardization of all dairy products

Application

Tetra Pak® Standardization unit S4 unit is designed for automatic in-line standardization of the fat, total solids, solids-non-fat and protein content in milk and cream directly after milk separation. The solution is ideal for dairy products including: low and high fat market milk, market cream, flavoured milk, cream for butter making, milk for fermented products and power production, cheese milk, whey, ice-cream mix, formulated products and functional foods.

Highlights

- Reliable performance with maximum line utilization and uniform product quality
- Minimal cream giveaway, +/- 0.015% on milk fat for significant savings
- Unlimited capabilities thanks to great versatility and customizations

Working principle

The system achieves accurate fat content, regardless of variations in the raw milk fat content, by continuously controlling the back pressure of the separator cream outlet in a cascade control system. The raw milk is separated while the skim milk pressure is kept constant by a continuous pressure-modulating valve.
A flow transmitter measures the cream flow from the separator and a temperature compensating mass-flow transmitter calculates the fat content. Another flow transmitter measures the flow of standardized milk.
On receiving signals from the transmitters, the computer in the control panel calculates the fat content in relation to set points and flow rates. It then transmits control signals to the cream-flow modulating valve, thereby controlling the fat content, whenever required.
All models have a surplus cream line that is used for regulating the flow rate of remix cream into the skim milk line, thereby standardizing the milk.

Basic unit product model

- Mass-flow and flow transmitters
- Control valves, changeover valves, non-return valves and sampling valves
- Pressure gauge
- Control panel in stainless steel with Siemens or Rockwell control system
- Human machine interface – touch screen mounted in control panel
- The unit is prepared for remote operation
- Technical documentation
- All internal wiring and piping
- All components pre-assembled on a stainless steel frame

Selection of options

- Automatic calibration for solids non-fat variations
- Ratio control between fat/protein or fat/solids non-fat
- Cold milk standardization, 6-12°C
- Additive to milk and cream for adding ingredients
- SpotOn technology for automatic in-line compensation for mix zones, separator discharge and managing filling and circulation of pasteurizer
- OneStep integration
- 3A version
- Mix-proof valve
- Communication with supervisory system
- Uninterrupted power supply (UPS)
- Air cooler with compressor for control panel
- Process analyze instrument

Processing parameters

Raw milk flow rate, (l/h)	5 000 to 75 000
Hot milk standardization temperature, (°C)	45 to 65

Consumption data

Power consumption[*], (kW)	0.5
Instrumental air, 600 kPa	200 (Nl/min)

* Voltage 200-400 V A C, 1-phase (max variation ±5%), frequency 50/60

Dimensions[*]

Height (mm)	2 200
Width (mm)	1 275
Length (mm)	1 470

Shipping data[*]

Net weight (kg)	370
Gross weight (kg)	720
Volume (m³)	8.7

* Options not included

Tetra Pak®
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