

CompoMaster Standardization Systems



The APV CompoMaster is designed for continuous standardization of the fat content in milk and cream and can also be used to standardize the solids-non-fat content in milk. It is directly connected to a separator for in-line standardization.

Adding Value

The success of a dairy operation today is dependent on optimal utilization of the valuable milk components (fat, protein and solids non fat).

On-line standardizing offers the possibility to optimize the production process to an extent which is not possible in a traditional batch operation method. Regardless of whether the application is market milk or milk for cheese, powder or condensed production, the tight process control of the CompoMaster facilitates improved product consistency and greatly improved production profitability. An investment in this type of standardizing equipment saves time, labor and investment in tank capacity.

Advantages

The following advantages should be emphasized:

- High accuracy
 - no post-standardization
- Fast setting owing to a special valve arrangement
- Preset of recipes with automatic product changes
- Display of fat content and amount of raw milk
- Automatic determination of fat content of raw milk by means of density transmitters (type KCC)
- Automatic compensation for variations in skim milk composition and temperature (type KCC)
- Fully integrative solutions for existing plants
- Competitive prices

Standard Designs

The APV CompoMaster is supplied in two standard designs and with a number of options, depending on customer requirements.

APV CompoMaster, type KCM

(Fig. 2) Semi-automatic system with a high degree of accuracy at an attractive price. The fat content of the raw milk is keyed in, after which the preselected fat content for the standardized milk and cream is regulated automatically.

APV CompoMaster, type KCC

(Fig. 3) Fully automatic system in which the fat content of the standardized milk and cream is adjusted to the preselected value, independent of the fat content of the raw milk. This is achieved automatically by means of density transmitters.



Fig. 1 APV CompoMaster, Type KCC

The APV CompoMaster consists of a measuring and regulating system controlled by a microprocessor controller. Type KCC also has density transmitters (Fig. 1) for cream and skim milk.

Design and Options

Milk can be standardized to a fat content of 0.5 - 5%, depending on the fat content of the incoming milk, with a standard deviation of 0.01% fat (SD) (type KCC). The fat content of the raw milk must be at least 0.2% higher than that required in the standardized milk.

Cream can be standardized to a fat content of 18 - 45%, with a standard deviation of 0.1% (SD) (type KCC).

The CompoMaster is available for capacities from 30-264 GPM (7,000 to 60,000 l/h) raw milk. It is delivered as a compact unit ready for installation and needs only to be connected to product, air and electricity lines.

Special Design

If the production requirement is cream with a fat content lower than that provided by the separator (e.g. half-and-half with a fat content of 11.5%), the CompoMaster can be supplied in a special design with an extra standardizing loop.

In partial homogenization applications, the cream is mixed with a portion of the skim milk, so that only about 1/3 of the total amount of the standardized product is homogenized. This reduces both the investment in homogenizers as well as the energy consumption. The APV CompoMaster is available in a special design for systems with partial homogenization.

Advanced Design

The CompoMaster can be supplied with an optional in-line analyzing instrument providing accurate on-line measurements of milk components such as fat, protein, lactose, total solids (TS) and solids non fat (SNF). The results are transferred instantly to the controller of the CompoMaster to enable fully automatic control of product components for milk standardization. For example, when changing from silos or batches of SNF (Fig. 4).

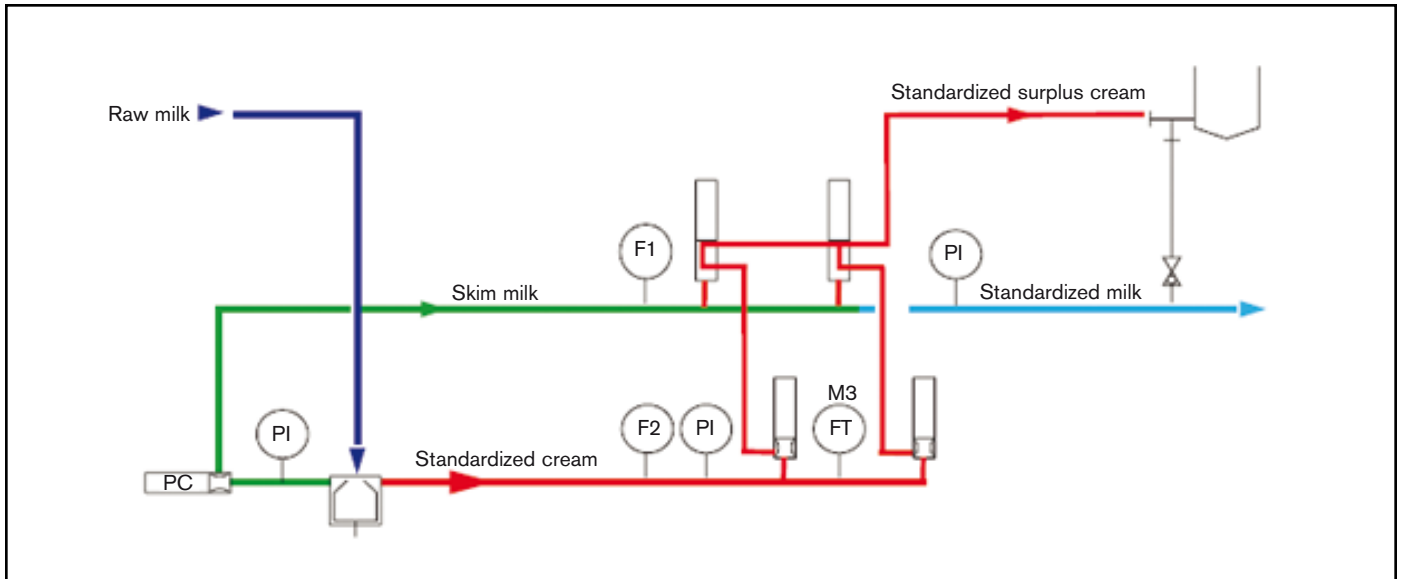


Fig. 2 APV CompoMaster, Type KCM

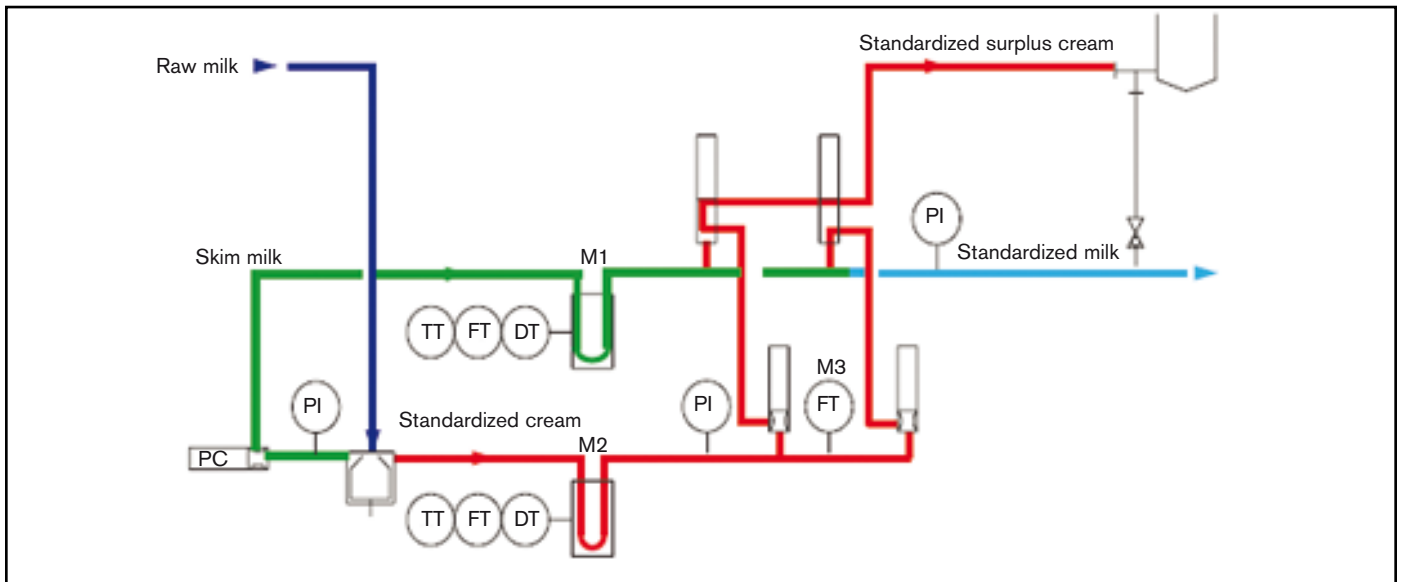


Fig. 3 APV CompoMaster, Type KCC

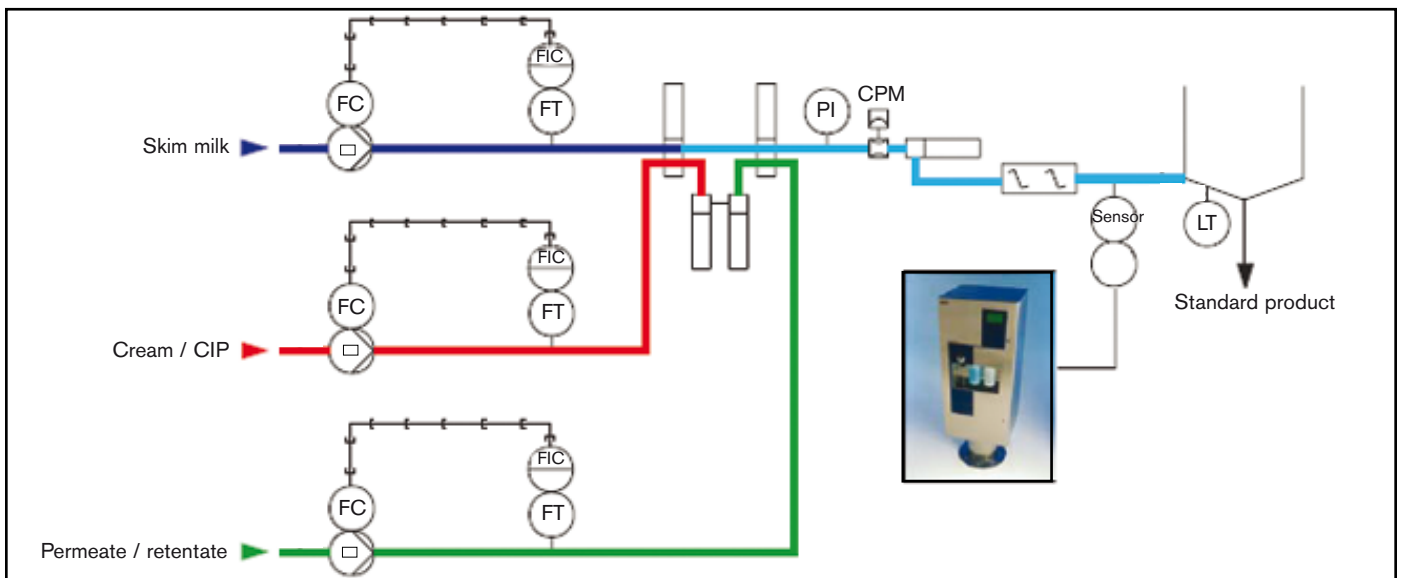


Fig. 4 APV CompoMaster showing the option for standardizing from batch tanks and optional in-line analyzer



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