Milk Standardization – Fat Control
Closed Loop Standardization

Simple Reliable Accurate

The System:
The On-Line, OL-7000F or Brewster LF, is third generation standardizer designed to ensure accurate fat in the final product. Other models are available to provide the additional control of solids and/or casein standardization (OL-8000 and Brewster LFC).

Money Savings:
Any excess fat in the final milk product is fat lost and therefore, money lost. The following charts show the daily and annualized savings for various production and fat recovery rates. A typical manual standardizing operation can expect a 0.08% fat loss recovery as a result of installing the On-Line. The On-Line will control the fat in the final product to within 0.02% of the targeted set point. Many packaged open loop standardizers do not control to the standard achieved by the On-Line. The chart below shows that even a 0.04% fat savings potential warrants consideration of an improved standardization system like the On-Line.

Daily Savings		Pounds of Milk Processed per Day		
		300,000	400,000	500,000
Fat Loss Recovered	0.04%	$120	$160	$200
	0.05%	$150	$200	$250
	0.06%	$180	$240	$300
	0.07%	$210	$280	$350
	0.08%	$240	$320	$400

Annualized Savings		Pounds of Milk Processed per Day		
		300,000	400,000	500,000
Fat Loss Recovered	0.04%	$36,000	$48,000	$60,000
	0.05%	$45,000	$60,000	$75,000
	0.06%	$54,000	$72,000	$90,000
	0.07%	$63,000	$84,000	$105,000
	0.08%	$72,000	$96,000	$120,000

* Fat cost assumed at $1.00 per pound. Days of production in one year assumed at 300.

Metron Instruments, Inc. PO Box 39325 Solon, Ohio 44139 USA
(216) 332-0592 office (216) 663-1005 fax

How It Works:
Samples of milk are taken continually from the finished product line after the plant homogenizer. The fat content is measured giving an "operating point" readout which is compared with the desired value or "set point". Any difference between the operating point and the set point produces an appropriate control action (i.e. change in the Smart Valve position).

In the case of a hot milk separator system, more or less excess cream is bled off through the Smart Valve and if necessary other ingredients can be regulated through a second Smart Valve.

In the case of a system without a separator, cream or skim are injected between the balance tank and the booster pump using Smart Valves. If necessary other ingredients are regulated with a second Smart Valve.

The System Incorporates:
- An operator interface with menus, prompting and help for inexperienced operators.
- Accurate, extremely stable operation inspires operator confidence.
- Semi-automatic calibration with full operator prompting.
- Menu screens are readily accessible for event and status reporting in plain English.

Reliability
- The system is designed around 5 key modules which are easily replaced.
- Stainless steel is used for both the exterior and interior modules.
- Low component count, solid state design is used throughout the system.

Low Service/Maintenance Cost
- Warranty service parts and labor are free of charge in the first year of operation.
- Separate function modules provide for easy fault isolation.
- Next day service/exchange of modules and components makes for quick return to full operation possible without costly field service.
- Modules are easily removed for necessary service.

Smart Valve
The Smart Valve is an intelligent, command driven, high precision throttling valve. The resolution of this digitally controlled valve is 0.05% across one inch of travel. This type of valve is important to precise standardization as a slight change to the cream flow rate creates a significant change in the fluid milk fat value. It utilizes Metron's custom valve stem profile that is optimized for milk standardization.

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What We Provide:

- The On-Line Standardizer with spare parts
- Start-up chemicals
- Sampling tee and sampling valve
- Smart Valve(s)
- Engineering, installation supervision, operator training and start-up.

What You Provide:

- Fitting of the pedestal or the wall mounting of the On-Line.
- Electricity: 110V, 50-60Hz from the main supply separately.
- The fitting of the tee into the homogenizer discharge.
- The fitting of the Smart Valve(s) as specified.

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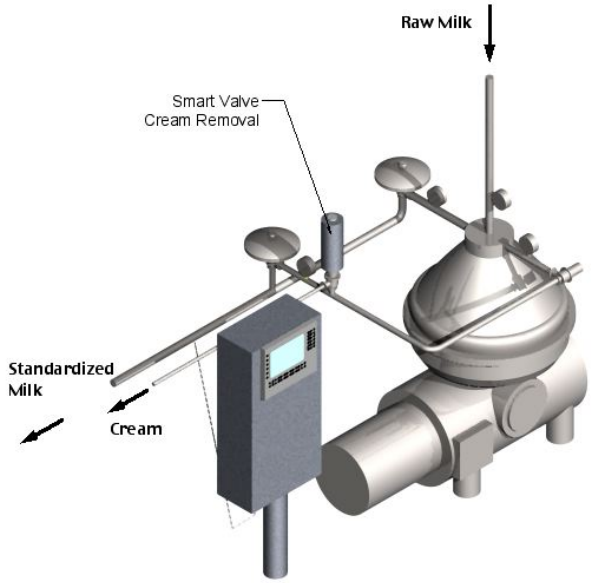
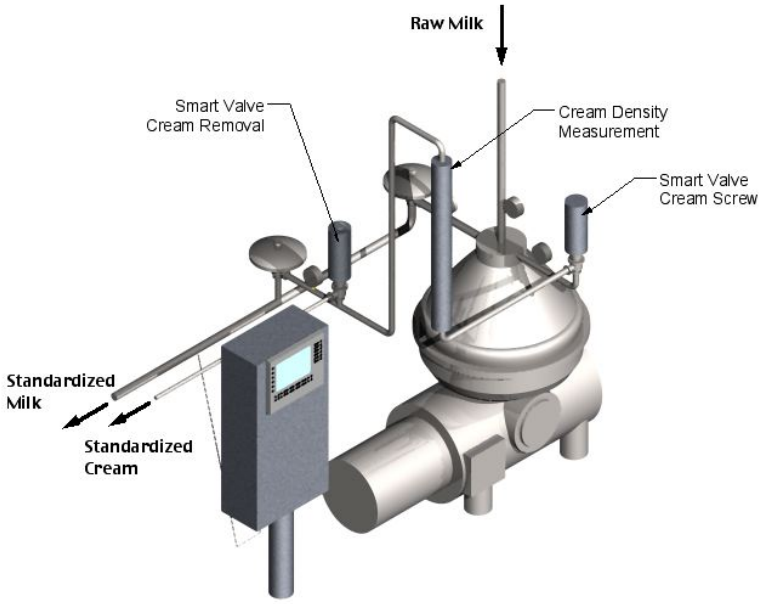
OL-7000F or Brewster LF – Installation of a standardizer in a separator system



OL-7000FC or Brewster LF with Cream Control – Installation of a standardizer in a separator system with cream control



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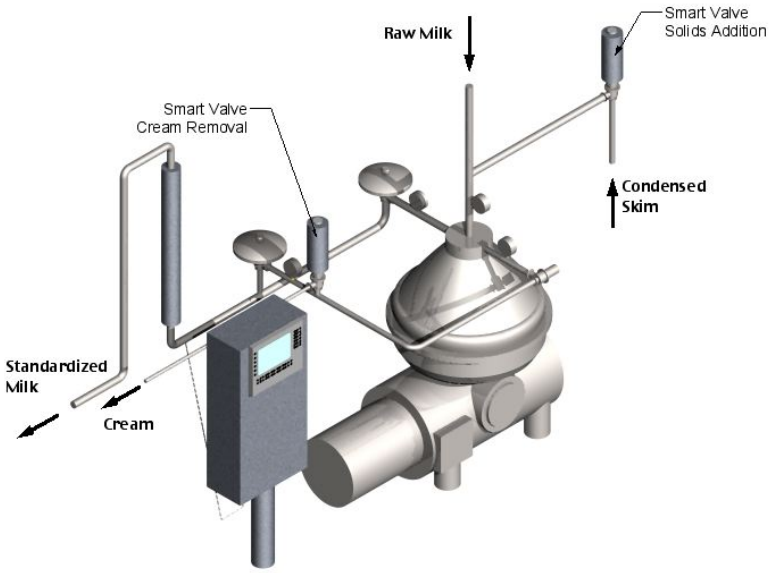
OL-7000FS or Brewster LF with Solids Control – Installation of a standardizer in a separator system with solids control (California application)



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