



PRODUCT RECOVERY SYSTEM (PRS™) An Attractive Alternative to Waste Treatment

Overview and Benefits

PRS™ is a patent pending technology to recover milk from raw and/or pasteurized lines, tanks, and equipment. Typical benefits include:

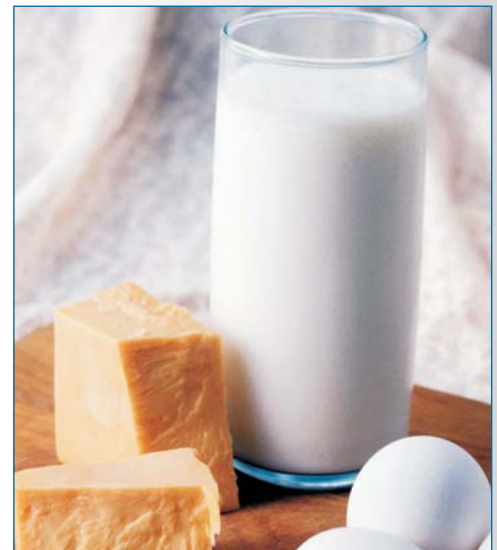
- Reduce Waste:
 - Excessive Biochemical Oxygen Demand (BOD₅) discharges are eliminated.
 - Waste streams discharged are reduced.
 - Valuable product is recovered from previously discarded material.
- Improve Operations/Product Quality:
 - Dairy operations are cleaner.
 - Product integrity is improved.
 - Plant losses are decreased.
- Reduce Cost:
 - Sewer costs are lowered.
 - Surcharges are reduced or avoided.
 - Plant costs are decreased for on-site treatment systems.
 - Revenue and the bottom line are increased.



Process Summary

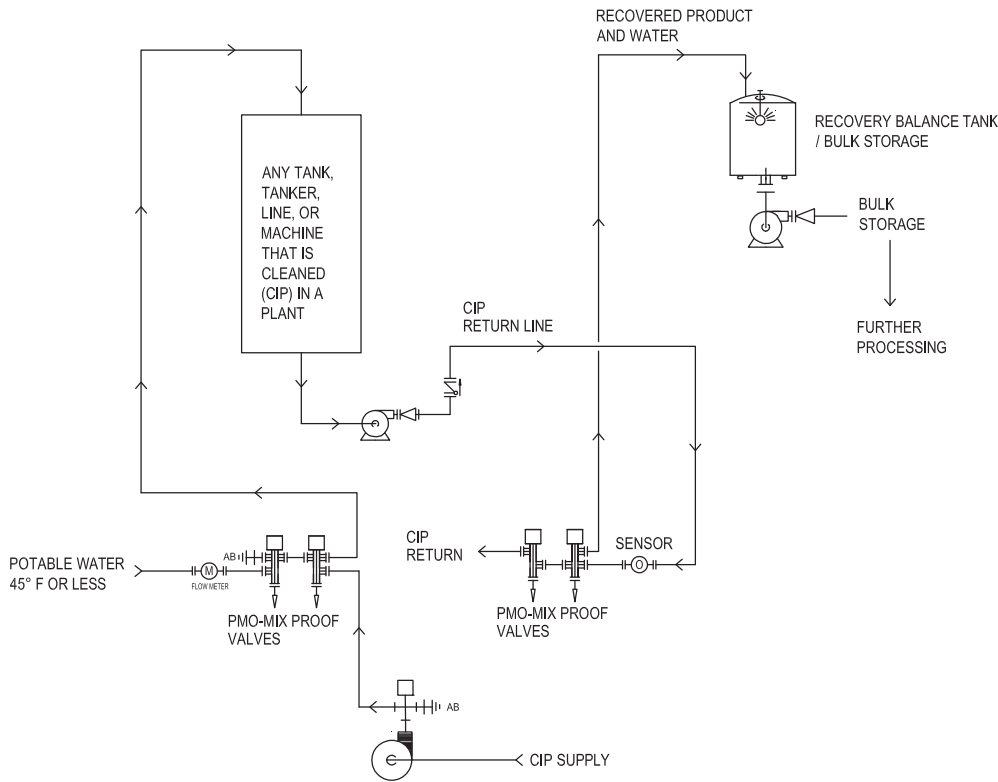
Potable, treated, and chilled water is used as a processing aid to rinse remaining product from contact surfaces at the end of selected dairy product production cycles. The recovered product is maintained at or below 45°F.

The PRS™ system uses the latest in control technologies and valves to recover product prior to clean-in-place (CIP) operations. System installation includes the modification of existing CIP lines and the addition of valves and sensors. The systems are custom designed for each plant and meet all Pasteurized Milk Ordinance (PMO) requirements and FDA regulations. PMO valves are used to ensure separation of lines, tanks, and equipment containing milk from circuits containing cleaning or sanitizing solutions. The process is programmable logic controlled with system interlocks to prevent milk from being contaminated with cleaning or sanitizing agents. The raw-side circuit is completely separate from the pasteurized-side circuit and all recovered product is treated as raw product.



Grade A skim milk powder, condensed skim, milk, or cream (for butterfat) is added to the recovered product to meet product standards. The recovered, blended product may currently be used in cottage cheese, yogurt, eggnog, cultured milk, sour cream, and ice cream mix.

Typical PRS™ Schematic



Plant information required to assess cost savings of PRS™

- Product line produced.
- Average raw milk receipts.
- Plant production rate (pounds or gallons per day or week).
- Plant owner.
- Relationship between Publicly Owned Treatment Works and the plant.
- Existing plant treatment.
- Average BOD₅.
- Sewer and surcharges on a monthly basis.
- Average gallons of water used per day.
- Average gallons of wastewater discharged per day.

Gannett Fleming's staff can provide 24- or 48-hour assessments of processing operations and wastewater discharges to predict cost savings through the use of PRS™. Call the Gannett Fleming engineers and food scientists for further information.

SERVICES FOR THE FOOD INDUSTRY

Food Processing and Design:

- In-plant Recovery Systems
- Process Review
- HTST Schematics
- CIP Schematics
- CIP Line Circuit Design
- HACCP Plans
- Energy Audits

Environmental:

- Environmental Assessments
- Pollution Prevention Plans
- Water Conservation
- Water Re-Use and Recycling
- Environmental Management Systems

Water/Wastewater:

- Wastewater Pretreatment
- Safe Drinking Water Act
- Wastewater Facilities
- Stormwater Management
- Clean Water Act
- Discharge Permits

Planning:

- Water/Wastewater
- Environmental
- Food Processing



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