Automatic CIP Plant Catalogue

Dairy Clean-in-Place System | Brand: STI Flows Ltd |

Capacity: 2000 L/H



Product Overview

The STI Flows Ltd Automatic CIP Plant is a fully automatic Clean-in-Place system designed for dairy processing plants that require safe, consistent, and hygienic cleaning of milk-contact equipment without dismantling. The system is suitable for cleaning dairy pipelines, balance tanks, pasteurisation sections, milk storage tanks, valves, pumps, plate heat exchangers, filling lines, yoghurt lines, and other sanitary process circuits. With a nominal capacity of 2000 L/H, the plant is suitable for small to medium dairy operations requiring repeatable cleaning performance and efficient production turnaround.

Brand and Capacity

Catalogue Item	Specification
Brand Name	STI Flows Ltd
Product Name	Automatic CIP Plant for Dairy Processing
Nominal Capacity	2000 L/H
System Type	Automatic Clean-in-Place system
Application	Dairy, milk, yoghurt, cream, beverage, and food processing equipment cleaning
Operation Mode	PLC-controlled automatic cleaning sequence with operator interface
Construction	Food-grade stainless steel hygienic construction

Full System Description

The STI Flows Ltd Automatic CIP Plant cleans process equipment by circulating controlled cleaning solutions through the same routes used for dairy production. The cleaning process combines mechanical action, chemical action, temperature, and contact time to remove milk fat, protein deposits, lactose films, mineral scale, and microbiological contamination risk from internal surfaces. The system is engineered to support repeatable daily cleaning cycles and helps reduce manual labour, cleaning variation, and production downtime.

Main Components

- **CIP solution tanks:** stainless steel tanks for rinse water, caustic solution, acid solution, hot water, and optional sanitising solution.
- **CIP supply pump:** transfers cleaning solution at the required flow to achieve effective turbulence inside dairy pipelines and equipment.
- **Return pump or return line:** recovers cleaning solution from the connected dairy circuit for reuse or controlled discharge.
- **Heating system:** steam, electric, or hot-water heating option to maintain the required cleaning temperature.
- **Automatic valve manifold:** directs water and cleaning solutions through selected cleaning routes.
- **PLC control panel:** controls cleaning sequence, time, temperature, valve position, pump operation, and alarms.
- **Instrumentation:** temperature sensor, conductivity sensor, level sensor, pressure indication, and flow monitoring according to project scope.
- **Hygienic skid frame:** compact stainless steel frame for easy installation and maintenance.

Typical Dairy CIP Cycle

1. **Pre-rinse:** removes loose milk, cream, and product residues from process surfaces.
2. **Caustic wash:** hot alkaline solution removes dairy fat, protein, and organic deposits.
3. **Intermediate rinse:** clears the caustic solution before the acid stage.
4. **Acid wash:** removes milk stone, mineral scale, and inorganic deposits.
5. **Final rinse:** removes remaining chemical traces and prepares the plant for production.
6. **Sanitisation:** optional final stage using hot water or approved sanitising solution before production start-up.

Dairy Applications

- Milk reception and raw milk transfer lines
- Pasteurisation and plate heat exchanger systems
- Milk storage tanks and balance tanks
- Yoghurt, flavoured milk, cream, and dairy beverage lines
- Butter, whey, and cream processing sections
- Filling machine product-contact lines
- Sanitary valves, pumps, pipelines, and process loops

Technical Specification

Parameter	Standard Catalogue Description
Capacity	2000 L/H
Automation Grade	Fully automatic
Control System	PLC and HMI touch-screen control panel
Cleaning Media	Water, hot water, caustic solution, acid solution, and sanitiser where required
Material	Stainless steel sanitary construction suitable for dairy service
Heating	Steam, electric, or hot-water heating option
Monitoring	Temperature, level, flow, conductivity, pressure, and alarm indication according to selected configuration
Installation	Skid-mounted compact installation for dairy processing areas

Customer Benefits

- Improves hygienic cleaning consistency across dairy process circuits.
- Reduces manual dismantling and cleaning labour.
- Supports repeatable cleaning recipes for different dairy lines and tanks.

- Helps reduce production downtime between batches.
- Improves control of cleaning time, temperature, and chemical concentration.
- Supports efficient use and recovery of water and cleaning solutions.
- Provides a professional, compact, and serviceable solution for dairy plants.