



*Mobile CIP/SIP  
Cleaning & Sterilization in Place*



## A choice of quality

Telstar Mobile CIP/SIP systems are designed and constructed to clean and sterilize production equipment in full compliance with cGMP guidelines in accordance with FDA and EP requirements.

Engineering and manufacturing practices follow ISO 9001 procedures and comply with internationally recognized standards and guidelines, such as ASME BPE and GAMP. Design and construction meets the most stringent Regulations and Codes from Europe and the USA.

To ensure the equipment meets requirements, Telstar works in partnership with its clients and a dedicated team follows an order as a unique project. Telstar develops specific Quality Plans (DQ, IQ and OQ) and undertakes factory acceptance testing (FAT) to give assurance, performance and quality.



## Features & Benefits

- **Compact units** designed for easy transportation and storage within production areas.
- **User Friendly** fully automated and safe operation, connections easy accessible
- **Reproducible** cleaning procedures, optional integrated printer
- **Self-Cleanable** design and automated program
- **Wide Range of operation** with programmable cleaning recipes, and optional frequency converter
- **Quality & Validation** Packages. The units are delivered with complete FAT Dossier and IQ/OQ Protocol documentation and execution are available by request

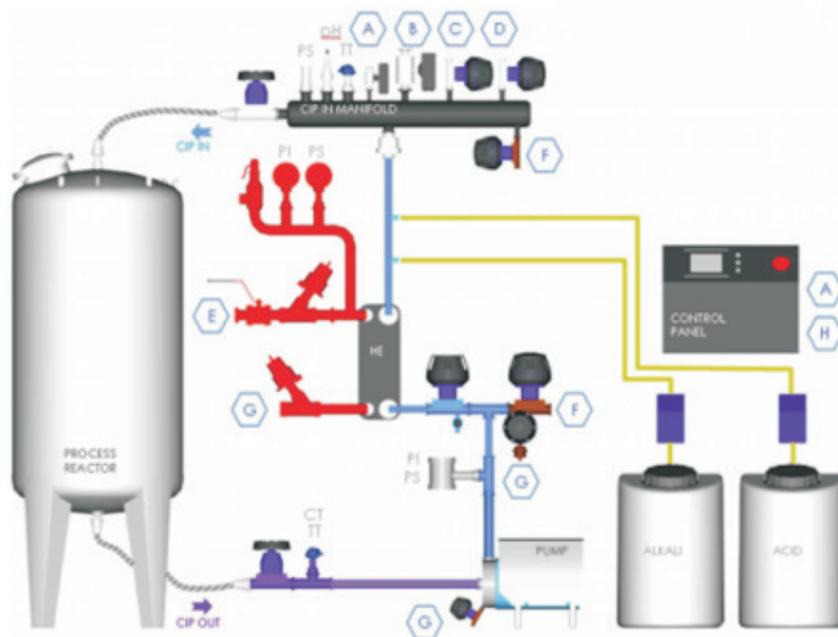


# Operating principle

## Preconfigured Cleaning Processes

Initial Rinse	Cleaning	pH Adjust	Flushing	Final Flushing	Steaming In Place	Application
Purified Water	PW + Alkali	Acid Dosage	Purified Water	Water for Injection	Pure Steam	Parenteral, Sterile
Soft. Water	SW + Alkali	Acid Dosage	Soft. Water	Purified Water	Optional	SDF, Liquids, Creams
Temperature Time	Temperature Time Conductivity	Conductivity	Temperature Time Conductivity	Time Conductivity	Time Pressure Temperature	Controlled Parameters

Customized Cleaning Procedure and Recipes are defined together with client during Preliminary Data Acquisition. Cleaning procedure must be approved and validated. For other cleaning configurations please contact Telstar.



- A. Compressed Air
- B. Pure Steam
- C. Purified Water
- D. Water for Injection
- E. Industrial Steam
- F. Drainage
- G. Condensates
- H. Electrical Power

1. Initial Rinse in order to eliminate residues
2. Alkaline cleaning operation: Alkaline detergents dissolve fat and/or proteins
3. pH adjust: In order to neutralize the caustic remaining on the surfaces of equipment. Acid dosing removes mineral deposits in the equipment
4. Flushing: Cold Purified or Water for injection will rinse away the residual acid solution
5. Sterilization in place

# Technical Data

## Performance and Characteristics

Dimensional	Lenght	1.200 mm	Main components characteristics	Pump	Centrifugal pump made of: -Welded parts: SS316L -Screws, yoke: SS304 -Cover, nuts: SS304 -Seals: Nitrile (NBR) -Seal Ring: SS329
	Width	1.100 mm		Heat Exchanger	Brazed Double Plate type, made of: -Body and plates SS316
	Height	1.600 mm		Main Piping, Acc.	SS316L ASME BPE/2012 Inner Polish: Ra 0,5 µm SF1
Net weight	120 kg	Secondary Piping, Acc.		Carbon Steel DIN 2440 or ASTM A120 Sch.40	
Opertions	420 kg	GMP fluids valves		Membrane type made of: -Valve body: SS316L -Membrane: EPDM Inner Polish: Ra 0,6µm SFV3 Connections: Clamp Type ASME BPE 2012 Std.	
Performance	Maxi Temp.	140°C		Non GMP Fluid Valves	Ball Type made of: -Valve Body: SS316 -Ball: SS316
	Nominal Pressure	CIP: 1.0 - 2.0 bar SIP: 1.2 - 3.0 bar		Steam Valves	Angle seat type, stainless Steel Valve Body, Actuator: SS304 Connections: Thread. DIN ISO 228
Instrumentation Control	Max. Pressure	5.0 bar		Drain Piping	SS304, closed pipe and accessories. Accessible from both module sides
	Flow Rate	5 - 10 m3/h @ 1 - 2 bar		Control Panel	Colour Touch-Screen and Indicators Stainless steel cover
Instrumentation Control	Pressure	Combined Pressure Indicator and transducer (4-20 mA). Membrane Separatore, A316		Additives Deposits	Sanitary Polyethylene Tubing: Teflon (PTFE)
	PLC	Siemens ET 200 Allen-Bradley available as option		Additives Pumps	Pulse Type, 20l/h Manual Regulatory of Vel./Vol
	Safety Valve	Bronze Type, Threaded Connections Certified pressure rate			
	Conductivity	Proble and transmissor 4-20 mA, Clamp Connection, SS316			
Utilities	Temperature sensor	PT100, 4-20 mA Output Clamp Connection, SS316			
	Industrial Steam	320 kg/h, 5 bar. DIN ISO 228 40 mm			
	Pure Steam	56 kg/h, 3 bar ¾" TC			
	Purified Water	~ 300-1000 l/cycle ¾" TC			
	Water for Injection	~ 100-500 l/cycle ¾" TC			
	Compressed Air	2N l/min @ 6-8 bar ½" TC			
	Drainage	5-100 m³/h @ Atm - 2 bar 1½" TC			
	Electricity	3~, 50Hz, 220 VΔ/380 VY 1,3 kW			



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