INTELLIGENT CLEANING OUR CIP SYSTEMS

B+G

JUMO

INTELLIGENT CLEANING

Successful cleaning is a key aspect in guaranteeing a high level of microbiological safety for your products and therefore contributes to quality assurance.

Our CIP systems

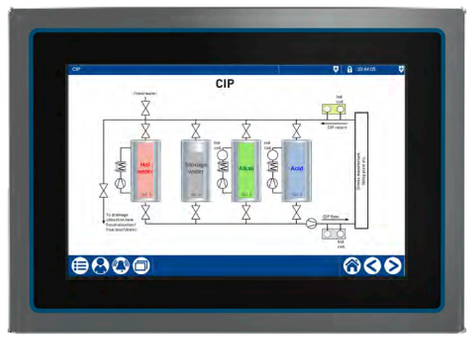
CIP systems are used in the food, beverage, pharmaceutical, and cosmetics industries. After production, residues or contamination from microorganisms as well as grease and lime deposits remain on surfaces that come into contact with the product, especially in areas that are difficult to access. These include containers, heat exchangers, and pipes. If these are not removed regularly, your product safety and product quality will suffer, which may lead to your product being recalled. To prevent that, efficient cleaning of all plant components is vital. Successful cleaning by an automated CIP plant is a key aspect in guaranteeing a high level of microbiological safety for your products and therefore contributes to quality assurance.

But what does CIP actually mean?

CIP means "Cleaning in Place" and stands for automatic cleaning of your production facilities without it having to be dismantled and reassembled by your staff after extensive cleaning. Production-related contamination, microorganisms, and deposits are reliably removed. The areas of the plant to be cleaned are connected to the CIP plant's forward flow and the cleaning process is individually adapted to the requirements of the area. In addition to increasing your product safety and cleaning quality as well as eliminating the need for time-consuming dismounting and manual cleaning, this process also saves a considerable amount of time and money.

MORE THAN SENSORS AND AUTOMATION

JUMO variTRON 500 touch
Automation system



OPC UA Modbus

JUMO flowTRANS MAG H20
Flow, temperature

JUMO dTRANS T1000
Temperature

JUMO ZELOS C01 LS
Full and empty indicator as well as dry-run protection

IO master

IO-Link

JUMO DELOS S02
Pressure and level

JUMO digiLine Ci HT10
Concentration and phase separation

JUMO dTRANS p35
Pressure and level

Intelligent Cleaning

JUMO products for the CIP process

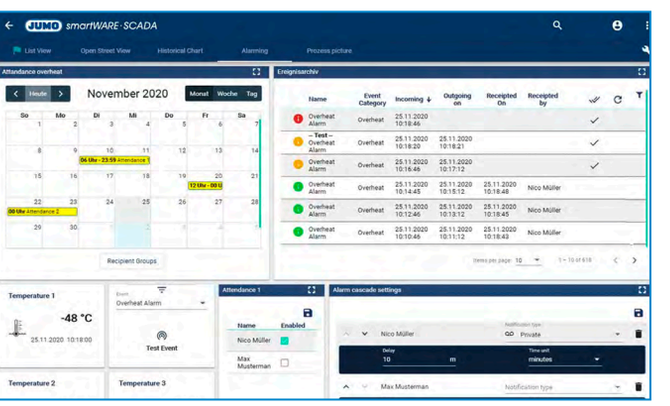
Temperature • Conductance • ☆ressure • Flow • Level

Software solutions for efficient CIP systems

The integration of specialized software into CIP systems enables precise control, automation, and monitoring of cleaning processes, which leads to improved efficiency, consistency, and traceability. These software solutions offer a wide range of functions – ranging from programming cleaning cycles to real-time monitoring of cleaning parameters – for modern industries.

JUMO smartWARE·SCADA

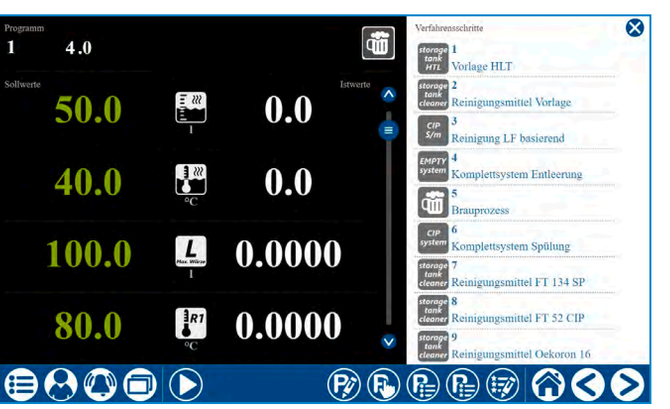
The JUMO smartWARE SCADA software provides easy access to measurement data using conventional web browsers. It offers functions for process visualization as well as for evaluation and archiving the acquired data. In addition, the software supports production and work processes with valuable monitoring, alarm, and planning functions.



JUMO smartWARE·Program

The JUMO smartWARE Program software solution enables the intuitive creation and editing of process technology programs via web access.

- Access control and user rights
- Simple program creation and administration



JUMO smartWARE·Evaluation

Dashboards allow targeted and fast access to recorded process data and its visualization. Manipulation detection based on digital certificates ensures a very high level of data security.

- The JUMO variTRON 500 has an integrated recording function for all incoming measured values.

MOBILE CIP PLANTS

And what is the right system for my application?

A large selection of our standardized CIP systems is available to solve your individual tasks. These can be adapted to your specific needs and – if required – expanded accordingly.

OPTIONS FOR MOBILE CIP PLANTS

Type series	BASIC	ECO	EVOLUTION	SMART
Container				
Size	1-2			
Quantity	100 L, 200 L, 300 L			
Dosage				
Liquid jet pumps	-	+	+	-
Magnetic dosing pumps	-	-	-	+
Suction lances without level switch	-	+	-	-
Suction lances with level switch	-	-	+	+
Quantity	-	2 (optionally 3)		
Pumps				
Flow pump	+	+	+	+
Return pump	-	o	o	o
Control / measurement technology				
Automation / circuitry	Manual		Automatic	
Flow measurement	o	+	+	+
Conductivity measurement	o	+	+	+
Further options				
Electric flow heater	o (7.5 KW or 15 KW)			
Return filter	o	o	o	o
Splash guard enclosure	-	-	-	o
Network & analysis unit	-	-	-	o

+ automatically included **–** not available **o** optional

FURTHER INFORMATION

Material:
- Material in contact with product 1.4404

Operating connections selectable:
- Clamping sockets according to DIN 32676, series A
- Compression fitting according to DIN 11851

Further options:
– Alt. operating connections (e.g. DIN 11864, 32676B/C)
– Maintenance packages, adapters, hose packages

Control system (ECO, EVOLUTION, SMART):
Performance-based automation system with SMART-ER user-friendly control through predefined process steps or as a decentralized solution for comprehensive control.

where a large, stationary CIP plant is not economical or practical. A large selection of our standardized CIP systems is available to solve your individual tasks. These can be adapted to your specific needs and – if required – expanded accordingly.

The plants are fully piped and wired on a stainless steel base frame and – depending on the version – have 1 or 2 insulated containers, a frequency-controlled CIP flow pump, and dosing units for the automatic dosing of up to 2 (optionally 3) different cleaning agent concentrates from canisters.

The pipe system of the plants consists of a suction line with return connection, a circulation line for internal circulation and homogenization, and a pressure pipe for conveying to the customer's target containers. Additionally, the plants have a process water connection and a connection for emptying into the customer's wastewater system.

Our modular concept enables the plants to be expanded with various options, depending on your individual application. The result is that – depending on the type series – an additional frequency-controlled return pump, an electric flow heater, a filter unit, and a splash protection enclosure for the dosing area or a remote maintenance and/or evaluation and analysis package can be added.

BASIC

The **BASIC** type series has a hand-operated circuit for flexible, economical operation and manual dosing via generously proportioned and easily accessible manholes. The cleaning solution is either prepared by the customer and placed in the container or dosed via the hand hole.

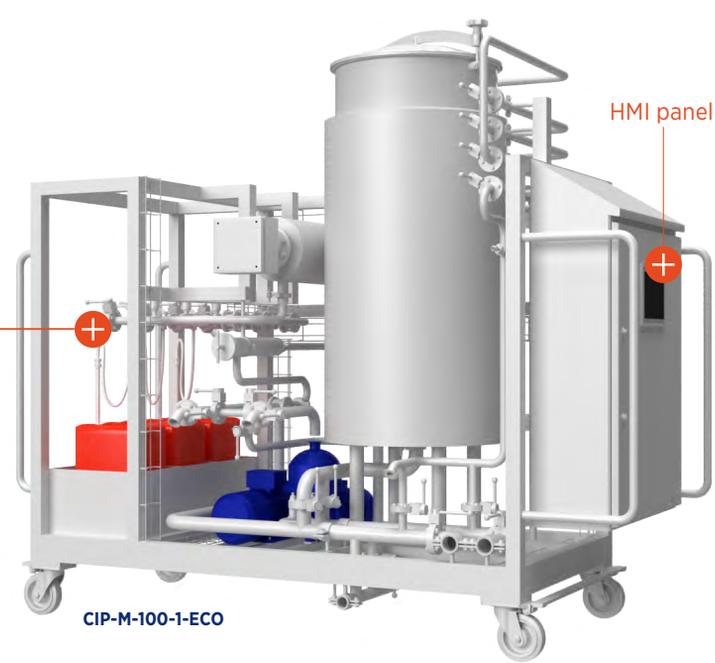
The use of the second container enables a separate water supply or the intermediate buffering of cleaning solutions as well as a parallel preparation process, which increases the flexibility of the plant and reduces cleaning times.

CIP-M-100-2-BASIC

ECO

The **ECO** type series has a manually operated circuit for flexible, economical operation with a high degree of process reliability due to conductivity-controlled measurement technology and integrated dosing units.

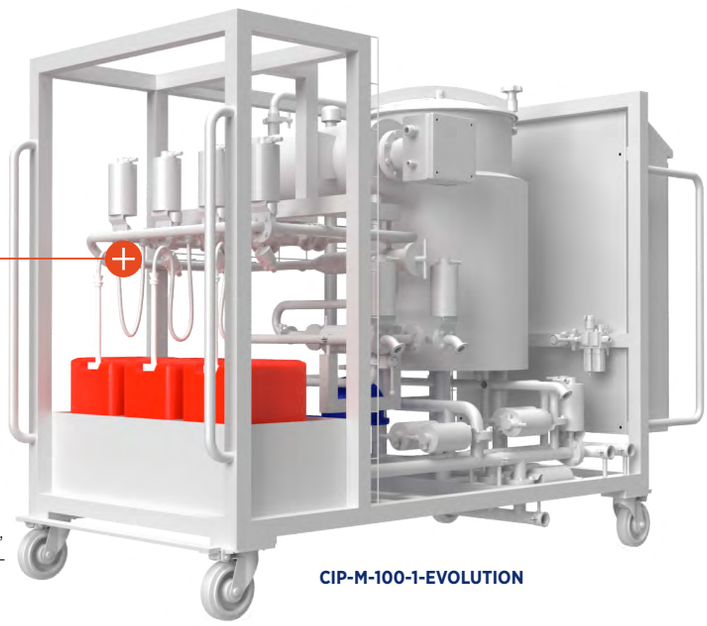
Dosing takes place using liquid jet pumps (injectors) via the flow rate of the flow pump, which minimizes acquisition, operating, and maintenance costs.



CIP-M-100-1-ECO

EVOLUTION

The **EVOLUTION** type series has the same control system as the SMART type series. It also has the same dosing units with liquid jet pumps (injectors) as the ECO type series. Standardized, predefined program steps can be used to quickly and easily compile, save, and reproduce individual cleaning programs.

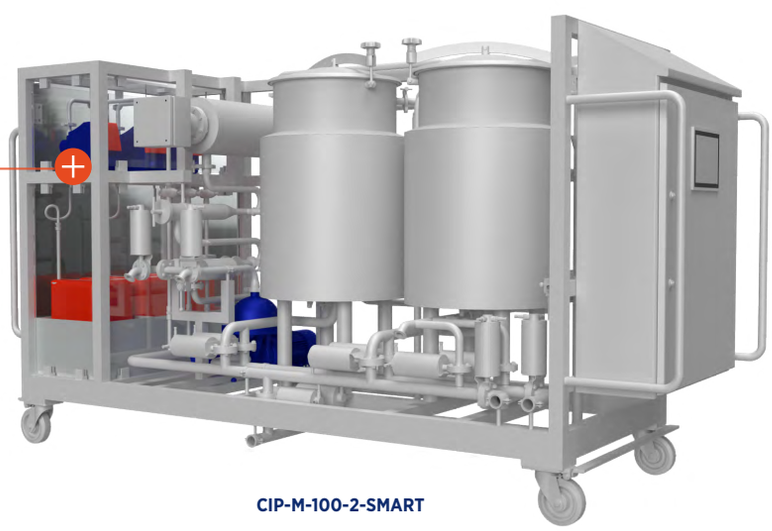


CIP-M-100-1-EVOLUTION

SMART

The **SMART** type series has a smart control system with standardized, predefined program steps that can be used to quickly and easily compile, save, and reproduce individual cleaning programs.

In addition to fully automatic conductivity-controlled lost cleaning with optional partially stackable circulation, the system can be used in a flexible manner for a wide range of applications (e.g. as a dosing or batching system). In addition to the conductance-controlled measurement technology, maximum process reliability is achieved by the air-spring driven butterfly valves with limit switches.

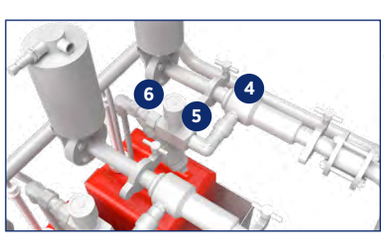


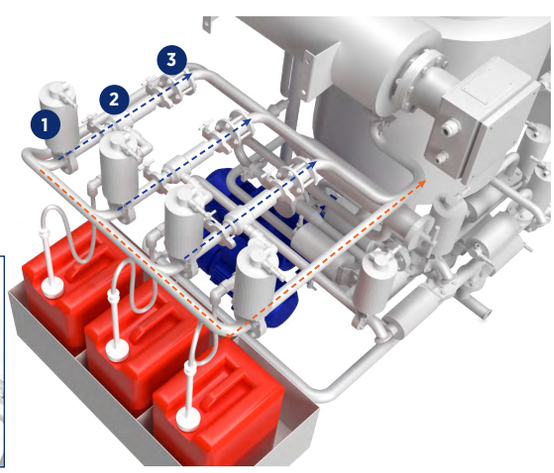
CIP-M-100-2-SMART

The systems in the SMART type series are available as an independent "standalone" solution including control and HMI or as a decentralized solution for connection to a higher-level control system!

DOSING FUNCTION BY LIQUID JET PUMP (INJECTOR) OF THE ECO & EVOLUTION VARIANTS

1. Butterfly valve for ECO manual / EVOLUTION pneumatic
2. Liquid jet pump (injectors)
3. Check valve main line
4. Check valve dosing line
5. Throttle valve with scale for adjusting admixture
6. Shut-off valve for shutting off the dosing line (manual for ECO/pneumatic for EVOLUTION)





– – Circulation line
– – Dosing line (via injectors)

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