



Tetra Pak® CIP Chemicals Dosing Unit

For membrane filtration systems and other processing equipment
in the food & beverage industry



Application

A proper cleaning in place (CIP) is crucial to the performance of membrane filtration processes and the production of high-quality products. The Tetra Pak® CIP Chemicals Dosing Unit offers advanced and flexible dosing of CIP chemicals to filtration systems, improving the safety and efficiency of your operation.

The unit can also dose CIP chemicals to other processing equipment in the food & beverage industry.

Highlights

- Compact design for easy installation
- Chemical resistant materials
- Low maintenance
- No mixing of chemicals in the unit due to leak-proof valves and FlareStar® fittings
- Leakage alarm to ensure highest safety

- Chemicals containing chlorine are kept in a separate cabinet
- Components are wired in the cabinet
- Speed controlled dosing for each individual chemical for more precise dosing and thus minimum detergent waste
- Unit can be connected to any PLC system

Working principle

The Tetra Pak® CIP Chemicals Dosing Unit is equipped with a pump; valves, valve block, and fittings made of PTFE and PFA; a flow transmitter, and electrical and air regulating blocks.

Flexible lances with check valve connect the unit to the chemicals' barrel or container, and flexible hoses or pipes connect the unit to water supply and to the balance tank of the system or line to be CIP'ed.

The flowmeter and the valves' position indicator send digital output signals, which are received by the process control systems in the PLC panel (IO cards), and the reading is converted into the respective data.

The dosing rate for each chemical can be set during commissioning by adjusting the respective air supply valve to the pump.

The connection of the Tetra Pak® CIP Chemicals Dosing Unit to the balance tank is open to drain or to the feed or the balance tank, so there is no blockage of the line and no pressure building.

The unit doses the CIP chemical based on a CIP procedure set in the program and displayed in the main control panel. The recipe contains the chemical's name, the dosing volume, the dosing sequence, and the temperature of dosing for each chemical.

Once the dosing temperature has been achieved in the filtration system, the Tetra Pak® CIP Chemicals Dosing Unit will start dosing the chemical/-s. The first step is a short flush with water, followed by the chemical dosing. The unit counts the chemical volume being pumped into the line.

Once the volume is achieved, water pushes the chemical to its destination. Water is then sent to drain for a few seconds to flush the line completely.

Finally, the unit goes back to idle and waits for the next dosing. In some cases, a chemical can be boosted/re-dosed, when this option is available in the program.

Technical data

Water supply pressure: max 3 bar (45 psi).

Various options for chemical lances.

Dosing of 1 – 9 chemicals and up to 3 systems, depending on the configuration (see table below).

Options	# of chemicals	Max dosing rate	Cabinet size LxWxH	Comments
CIP Chemicals Dosing Unit 1-08-non-chlorine ½"	3 - 7	8 L/min 2 gal/min	1,000 x 400 x 1,200 mm 39.4 x 16 x 47.2 inches	For small dead volume systems Single and double outlets
CIP Chemicals Dosing Unit 1-08 ½"	1 - 2	8 L/min 2 gal/min	600 x 400 x 1,200 mm 23.6 x 16 x 47.2 inches	For small dead volume systems Single and double outlets
CIP Chemicals Dosing Unit 3-30-non-chlorine ¾"	3 - 7	30 L/min 8 gal/min	1,000 x 400 x 1,200 mm 39.4 x 16 x 47.2 inches	For large dead volume systems and/or for up to 3 systems Single outlet
CIP Chemicals Dosing Unit 3-30 ¾"	1 - 2	30 L/min 8 gal/min	600 x 400 x 1,200 mm 23.6 x 16 x 47.2 inches	For large dead volume systems and/or for up to 3 systems
CIP Chemicals Dosing Unit 3-30 ¾" (two panels, smaller for chlorine)	7 + 2	30 L/min 8 gal/min	600 x 400 x 1,200 mm and 1,000 x 400 x 1,200 mm 23.6 x 16 x 47.2 inches and 39.4 x 16 x 47.2 inches	For large dead volume systems and/or for up to 3 systems

Always follow chemical suppliers' instructions, and use personal protection equipment when handling chemicals.

Tetra Pak

Filtration solutions

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