cons Energy consumption during CIP Cip ranks third in terms of energy consumption, representing 9% of the total energy consumed, as the efficiency of the dairy industry in Germany, the Netherlands, the United Kingdom and France revealed that cleaning in place is primarily responsible for energy consumption, especially during cleaning of evaporators and dryers, as revealed Ramirez et al. found that CIP in dairy factories in Canada consumes energy ranging between (0.0001 and 0.0930 kWh/liter of milk).The use of plastic and hydrogen peroxide as a substitute for chlorine also leads to greater demand for biological oxygen (BOD) of wastewater, which increases the costs of the wastewater treatment plant.Gas plays the main role in producing thermal energy such as hot water and steam, with consumption ranging from 71.28 And 222.51 per 10,000 kg. In addition to electrical energy, such as pumping, storage, separation, and cleaning, its consumption amounts to 776.97 kilowatt-hours.Water Consumption Dairy industries rank third in terms of water consumption and expenditure, globally using between 0.2 and 11 liters of water per liter of milk processed.McCarthy and others reported that using chlorine in the cleaning process can It leads to the formation of chlorates in milk or dairy products, which causes nutritional problems such as the presence of oxychlorine and others...The CIP process also requires thermal energy to produce hot water and steam, such as pasteurization, drying and evaporation, which represents 80% of energy use in the United Kingdom.In the United States of America, a study confirmed that producing 1 kg of cheese requires 3.19 megajoules of thermal energy, which leads to increased global warming.Cleaning in place contributes to 28% of them, with evaporators and dryers ranking first in water consumption (309.5–225.4 liters/1 ton of total milk processed), followed by cleaning feeding systems and silos (104.7–387.7 liters/1 ton of total milk used).In 2013, Dairy Australia recorded the highest water use in the CIP process at 28%, as we can consider that spatial cleaning is a major consumer of water during processing, as water is disposed of immediately after use.The consumption of chemicals also requires energy, which leads to equipment wear and increased maintenance costs.Use of chemicals It is known that the use of chemicals in cleaning in place leads to high-precision and time-saving cleaning using acid and alkaline detergents in addition to disinfectants.Ingestion of inorganic chlorine also leads to health problems such as kidney toxicity, blood toxicity, thyroid problems, and others.It is necessary to evaluate the type and quantity of chemicals used during cleaning and the use of water and effective methods for disposing of them.They must also be separated and neutralized before discharging, as they pose a threat to the environment in addition to the high costs resulting from their use.