

CIP CHEMISTRY LIFE EXTENDED WITH MICROFILTRATION TECHNOLOGY

Extending the life cycle for chemical solutions within the CIP system is crucial for food and beverage processing facilities, where a growing demand for processes to optimize CIP recovery and maximize cost savings for the facility is essential. Layne's team of experts began exploring ways to optimize current treatment processes is within the industry, ultimately developing the Layne CIP ChemXtend™.

Utilizing Layne's patent pending technology, the CIP ChemXtend™ makes it possible to clean contaminated CIP solutions and extend CIP solution usage by more than 2.5x typical operations. Considered the most reliable membrane separation system in the market, Layne's CIP ChemXtend™ also offers operators a compact, easy to use, and fully automated treatment system for CIP caustic and acid recovery.

HIGHER PERFORMANCE + LOWER MAINTENANCE + SAFETY

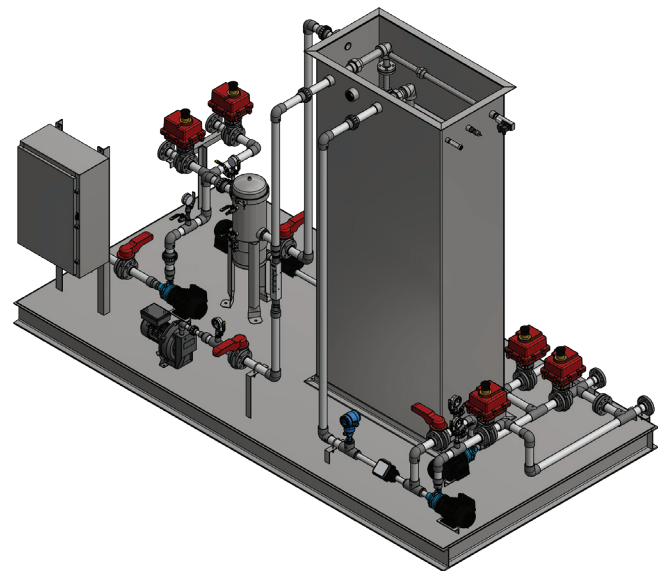
Layne's CIP ChemXtend™ is specifically engineered to achieve higher flow rates with lower energy consumption, when compared to other treatment systems available.

- + By utilizing PTFE micro-filtration (MF) membrane fibers, the CIP ChemXtend™ successfully operates in a full pH range of 0 - 14.
- + The CIP ChemXtend™ is designed with an automated sludge discharge process, to avoid being effected by debris build up.
- + The CIP ChemXtend™ hardware design eliminates the chemical smells, foaming or vapor emissions being released and potential EHS risks associated.

THE LAYNE ADVANTAGE

BEST COST-EFFECTIVE SYSTEM FOR CIP CAUSTIC / ACID RECOVERY

- + LOW CLEANING AND MAINTENANCE EXPENSES
- + REDUCED CHEMICAL USAGE
- + PTFE FIBER MATERIAL IS 6X STRONGER THAN TYPICAL POLYMERIC FIBERS
- + HIGH QUALITY STAINLESS STEEL PIPING AND FRAMES MINIMIZES HEALTH AND SAFETY CLEANING CONCERNS
- + ROI SEEN WITHIN 18 MONTHS



ROBUST CAPABILITIES + OPERATIONAL FLEXIBILITY

Layne’s CIP ChemXtend™ is designed to meet the stringent discharge requirements for batch treated emulsions, cleaning solutions or waste water. Developed to provide owners the flexibility for adjusting to their particular CIP recovery and recycling needs, the CIP ChemXtend™ is a modular design that easily allows for expansion by adding membranes to the system.

Layne’s CIP ChemXtend™ unique capabilities of operating at higher temperatures means there is no need to cool the CIP solution. This allows for immediate treatment and quicker turn around.

THE LAYNE ADVANTAGE

MAXIMIZE YOUR SOLUTIONS

- + POLISH BOTH CAUSTIC AND ACID SOLUTIONS WITHOUT INTERRUPTING THE CIP OPERATION
- + GREATLY REDUCE DISCHARGE LEVELS OF TOTAL DISSOLVED SOLIDS (TDS) AND TOTAL SUSPENDED SOLIDS (TSS)
- + EXTEND CHEMISTRY LIFE CYCLE BEFORE DISCHARGING / REPLENISHING

8-MODULAR MEMBRANE DESIGN

PARAMETER	VALUE	UNITS
SYSTEM PRODUCTION FLOW RATE	4	GPM
TIME AVERAGE FLUX	12	GFD
OPERATIONAL FLUX	14	GFD
AREA PER MODULE	65	FT^2
MEMBRANE AREA	517	FT^2
TOTAL MEMBRANE MODULES	8	EA
TOTAL MEMBRANE FRAMES	1	EA
NO. OF MEMBRANE TANKS	1	EA
FRAMES PER TANK	1	EA
MEMBRANE CYCLE ON/OFF SETTING	15/1.5	MINUTE
AIR FLOW REQUIRED	18	SCFM

Note: Layne’s ChemXtend™ is offered in 3 membrane module types: 8, 16, and 24. The Membrane System Design described above reflects one of 8 membrane module types available.