



# ENGINEERING SUPPORT SERVICES



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# cloa-ci-na [kloh-see-na]

Origin:

Ancient Rome; cloaca [sewer]

1. Roman goddess of the sewers
2. Manufacturer and purveyor of package wastewater treatment plants and equipment

Cloacina, LLC is a manufacturer and purveyor of stainless steel package wastewater treatment plants and equipment located on the Central Coast of California. It is owned and managed by a family of licensed wastewater operators, project managers and maintenance mechanics, now four generations deep. Pride in craftsmanship. Unparalleled ingenuity. Environmental protection. At the heart of Cloacina, these are the values driving the design and production of each package wastewater treatment plant and piece of equipment. All products are proudly manufactured in America.

Over the past decade, Cloacina has become a trusted resource for engineering firms across the United States. We specialize in providing a complete wastewater equipment menu from inlet to outlet. Our Engineering Team supports your design and client from inception through start-up, installation and commissioning of the equipment and during the warranty period. Cloacina plants have expedited proposal, design, permitting, construction and installation time frames compared to traditional treatment methods. We provide process calculations, modeling, and documentation, per your specifications or ours, for selection and design of our plants and equipment including: Equipment specifications, PFDs, P&IDs, controls panel drawings, controls strategies and equipment data for inclusion in your submittals. You approve the design. We provide the process guarantee and equipment liability. Working with Cloacina allows you to work on wastewater projects without a process engineer on staff and allows you to complete more projects every year acting as the Project Manager that oversees our pre-engineered designs. We can also assist your client with the interface of our equipment with their existing facilities.

## ENGINEERING SUPPORT SERVICES

### PRIOR TO CONTRACT EXECUTION

- Site renderings and concept drawings
- Facility or on-site analysis
- Permit application support
- Discharge permit review
- Budgetary estimates
- Conceptual renderings
- Case studies
- Value engineering
- Process guarantee
- Photographs, videos and marketing materials

### PRIOR TO PLANT CONSTRUCTION

- Structural design and engineering
- On-site and virtual team meetings as necessary
- 3D Modeling
- Preparation of deliverables:
  - Process Flow Diagrams (PFD)
  - Piping and Instrumentation Diagrams (P&ID)
  - Wet/dry utility drawings
  - General Arrangement (GA) drawings
  - Full specifications

### DURING INSTALLATION/COMMISSIONING

- Field verification
- Project coordination meetings
- Commissioning support

### DURING CONSTRUCTION/PACKAGING/SHIPPING

- Tours and training for project team members at the factory prior to shipping
- Factory acceptance testing
- Managing client expectations during production

### POST-INSTALLATION

- Project review
- Evaluation of warranty compliance sampling
- Warranty claim processing
- Remote monitoring and support
- Operations and maintenance support

## WHAT SETS OUR PRODUCTS APART?

Stainless steel tankage and equipment skids come standard on all models

Our plants are designed to last decades rather than years

Every Cloacina wastewater treatment plant and piece of equipment undergoes rigorous Factory Acceptance Testing (FAT) of the plumbing, mechanical, electrical and controls systems prior to shipping

Models are available for installation in small footprints, remote locations and extreme weather

Plants ship as factory-assembled, complete systems not as individual pieces of equipment that have to be assembled for the first time on-site

Clients can reclaim 100% of the treated effluent for irrigation and sanitation purposes

# PACKAGE WASTEWATER TREATMENT REVOLUTIONIZED

## MEMPAC™-M (MUNICIPAL)

Designed to meet strict municipal project and discharge requirements, the MEMPAC-M has the longest life cycle of any of Cloacina's membrane bioreactors and is designed to reclaim 100% of the treated effluent.



## MEMPAC™-E (ECONOMY)

Designed for low flow ranges and budget-conscious clients, this model has standard designs and economized equipment selections while incorporating most of the revolutionary features of the MEMPAC line.



## MEMPAC™-X (EXTERNAL TANKS)

The MEMPAC-X is a cost-effective solution for low flow domestic applications with stringent discharge requirements. It treats 5,000 GPD standard and can be expanded to treat up to 25,000 GPD with additional external tanks.



## MEMPAC™-I (INDUSTRIAL)

The MEMPAC-I includes the screening, primary treatment, activated sludge and membrane clarification necessary to stabilize and treat the fluctuating influent strength and extreme loading of industrial waste.



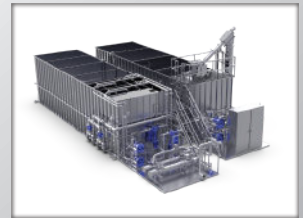
## DRYPAC™

The DRYPAC Aerated Sludge Handling System processes Waste Activated Sludge (WAS). All necessary chemical and polymer addition equipment is included and integrated into the controls system.



## MEMPAC™-S (SCALPING)

The MEMPAC-S takes domestic wastewater out of the gravity sewer, treats it to reuse standards and then discharges it for irrigation purposes, industrial or commercial water usage or recharges groundwater using direct injection.



## MEMPAC™ - MINI

The MEMPAC-MINI is a complete stainless steel wastewater treatment system for low flow and re-use applications. A compact version of other MEMPAC models, the typical footprint for the equipment skid is less than forty square feet.



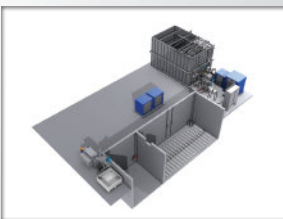
## PRIMEPAC™

The PRIMEPAC is designed to significantly decrease BOD, balance pH and increase the capacity of an existing pond or treatment system without significant capital expenditures and operating expenses.



## MEMPAC™-H (HYBRID)

The MEMPAC-H is a hybrid package designed for both municipal and industrial clients that need wastewater treatment equipment but either already have or intend to supply their own tankage and piping.



## HEADPAC™

The HEADPAC Headworks System removes inorganics from waste streams through a variety of screening options. It arrives as a complete system ready to be installed with minimal site work.



## CEMPAC™

Cloacina's CEMPAC incorporates Silicon Carbide (SiC) membranes into a package sludge thickening system. Clients can now thicken sludge without the use of polymers and their downstream effects!



**TO LEARN MORE ABOUT CLOACINA'S  
REVOLUTIONARY PRODUCT LINE VISIT:  
[CLOACINA.COM/CLOACINA-LINE-CARD](http://CLOACINA.COM/CLOACINA-LINE-CARD)**