

# MUNICIPALITY SUPPORT SERVICES



# 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.

Cloacina was founded by four municipal water and wastewater treatment chief plant operators, maintenance mechanics and construction superintendents. After decades working on a variety of systems, they decided to establish Cloacina and build package wastewater treatment plants and equipment. Their goal was to produce plants that make operations and maintenance tasks easy. Cloacina systems are designed by operators for operators.

A fraction of the cost of traditional cast-in-place plants, Cloacina package wastewater treatment plants come pre-engineered for the client's specific waste stream, discharge permit and project phasing. The stainless steel MEMPAC-M, designed specifically to treat municipal waste to re-use standards, provides a higher level of monitoring than traditional plants of the same size.

# **MUNICIPALITY SUPPORT SERVICES**

- Responsive team members that assist you every step of the project
- Single point of liability with equipment supply
- Master plan alternative analysis
- Facility and phasing assessments
- Short term rental units so discharge requirements can be met during construction
- Tertiary, headworks and redundancy upgrades
- Solids management
- Sludge thickening and dewatering
- Decentralized systems allowing for increased capacity in the central plant
- Systems that reclaim 100% of the treated effluent for irrigation or sanitation purposes
- Scalping plants



# **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

#### MEMPACTM-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 budgetconscious 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.



#### MEMPACTM-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<sup>TM</sup>**

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.



#### MEMPACTM - 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.



#### **PRIMEPACTM**

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.



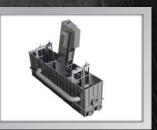
# MEMPACTM-H (HYBRID)

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

# REPRESENTATIVE PROJECTS

### **GUNNER RANCH WEST - MEMPAC-M250**



### **INFLUENT PARAMETERS**

AVERAGE DAILY FLOW	250,000 GPD
BIOCHEMICAL OXYGEN DEMAND	400 MG/L
TOTAL SUSPENDED SOLIDS	400 MG/L
INFLUENT TYPE	MUNICIPAL

# **EFFLUENT QUALITY**

BIOCHEMICAL OXYGEN DEMAND	< 10 MG/L
TOTAL SUSPENDED SOLIDS	< 10 MG/L

### **INFLUENT PARAMETERS**

AVERAGE DAILY FLOW	75,000 GPD
BIOCHEMICAL OXYGEN DEMAND	300 MG/L
TOTAL SUSPENDED SOLIDS	300 MG/L
INFLUENT TYPE	MUNICIPAL

# **EFFLUENT QUALITY**

BIOCHEMICAL OXYGEN DEMAND	< 5 MG/L
TOTAL SUSPENDED SOLIDS	< 5 MG/L

# SAN DIEGO ZOO SAFARI PARK - MEMPAC-M75



# **MILLERTON LAKE - MEMPAC-M50**



# **INFLUENT PARAMETERS**

AVERAGE DAILY FLOW	50,000 GPD
BIOCHEMICAL OXYGEN DEMAND	400 MG/L
TOTAL SUSPENDED SOLIDS	350 MG/L
INFLUENT TYPE	MUNICIPAL

# **EFFLUENT QUALITY**

BIOCHEMICAL OXYGEN DEMANI	< 10 MG/L
TOTAL SUSPENDED SOLIDS	< 10 MG/L