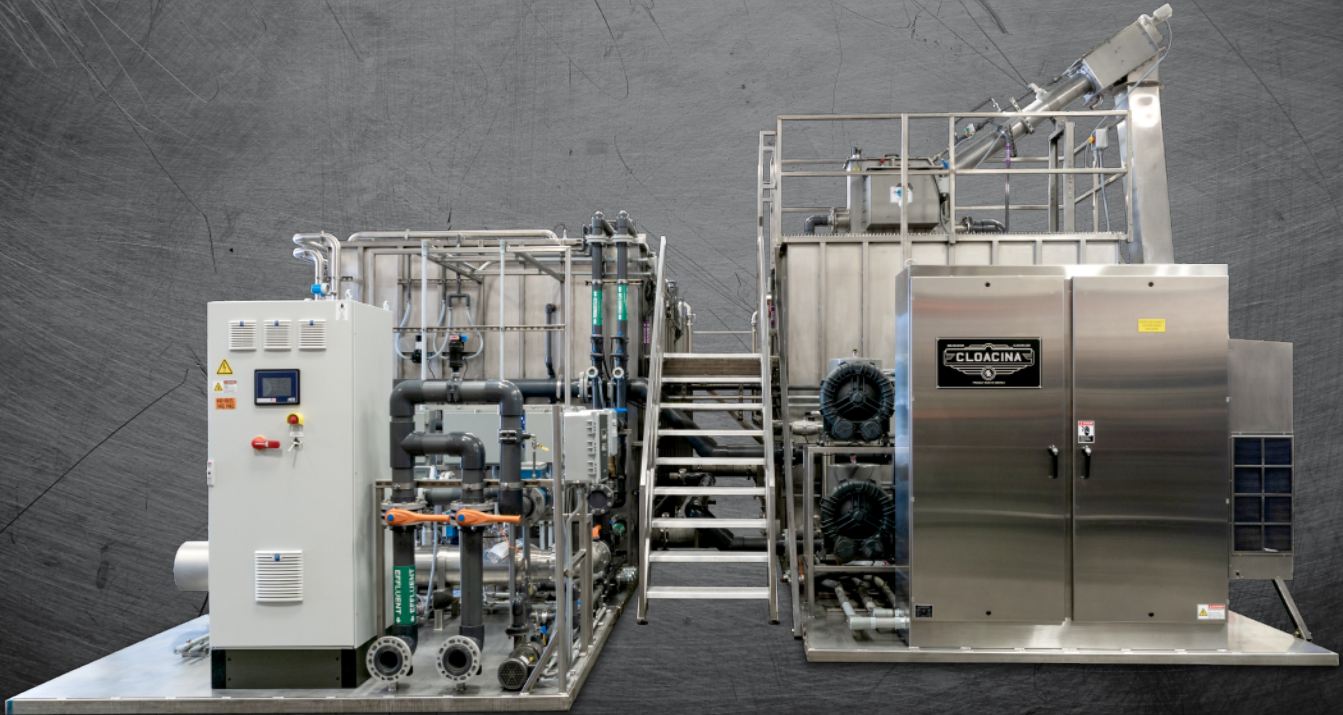


# PRODUCT DESCRIPTION



Designed specifically to meet strict municipal project specifications, the MEMPAC-M is Cloacina's unrivalled membrane bioreactor with the longest life cycle of any of Cloacina's package wastewater treatment plants. The MEMPAC-M is designed for municipal clients with stringent discharge requirements or the desire to reclaim treated effluent for reuse or ground disposal.

The MEMPAC-M incorporates primary treatment, activated sludge and membrane clarification as the final stage of treatment. Unlike activated sludge wastewater plants that utilize a traditional clarifier, membrane treatment does not allow solids to carry over into the effluent.

This is the only MEMPAC model that comes standard with Cloacina's premium equipment package. The MEMPAC-M typically features additional redundancy within the membrane system and ancillary equipment as well as biological or process modeling reports. All tankage and equipment skids are fabricated from stainless steel and all interior and exterior components are manufactured from high-quality, corrosion-resistant materials. Prior to shipment, all components are factory-installed and wet tested as a complete system. The compact design of the MEMPAC-M makes it ideal for projects with small footprints and remote locations.

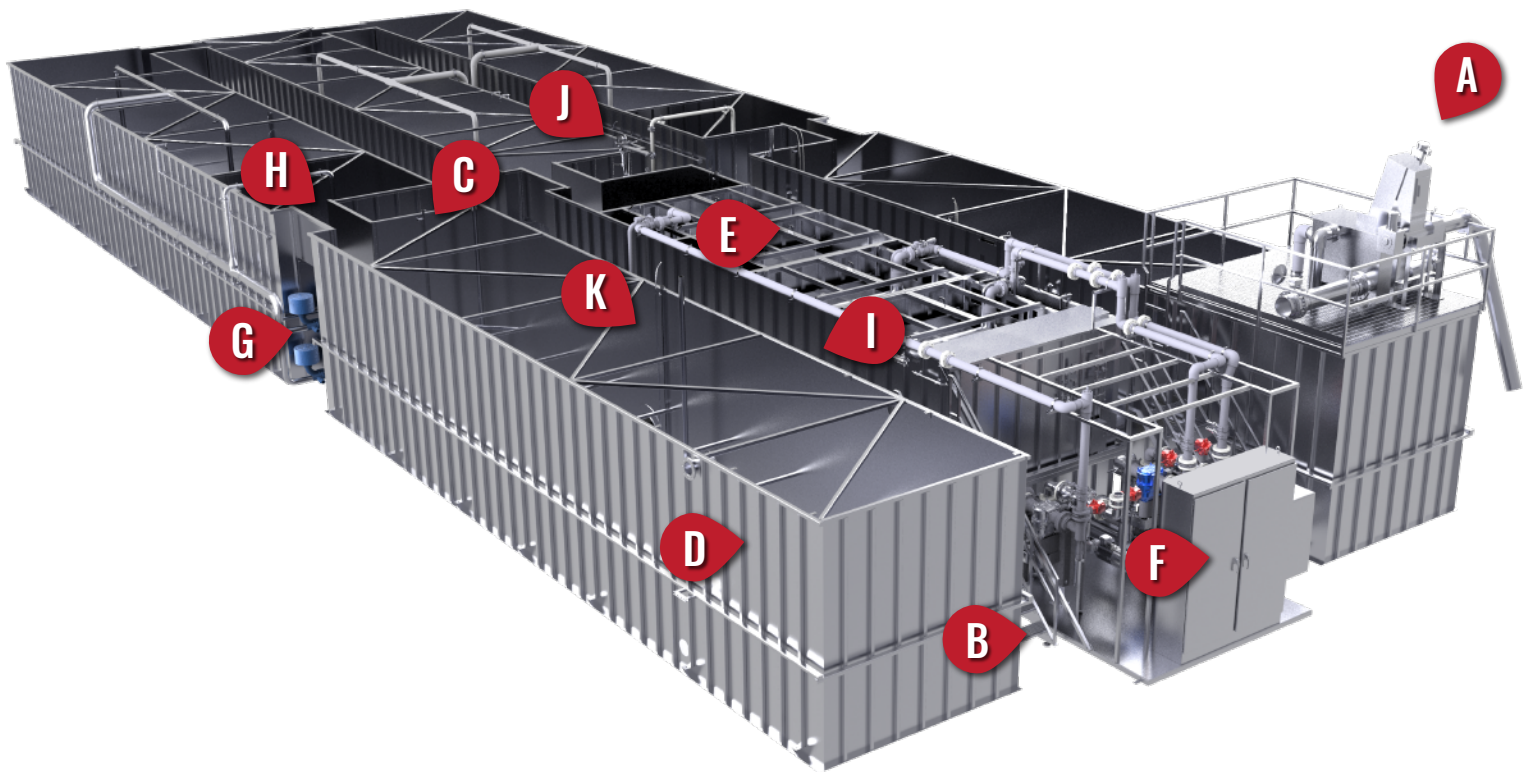
Cloacina's MEMPAC-M is the industry's only membrane bioreactor that utilizes Forward Activated Sludge (FAS) to provide the motive force to keep the membrane interface at the proper viscosity and the maximum dynamic loading of the reactor volumes while maintaining the ideal Biological Nutrient Removal (BNR).

TYPICAL INFLUENT PARAMETERS			
CONSTITUENT	VALUE	UNITS	NOTES
Flow	1,000 - 500,000	GPD	
TSS	300	mg/L	
BOD5	350	mg/L	
Temperature	41 - 68	°F	Average
TN	50	mg/L	

TYPICAL EFFLUENT PARAMETERS			
CONSTITUENT	VALUE	UNITS	NOTES
pH	6.0 - 8.5		
BOD5	<10	mg/L	
TSS	<10	mg/L	
TN	<10	mg/L	

**TYPICAL APPLICATIONS**  
 Municipal waste from mobile home parks, rest areas, campgrounds, schools, detention centers, theme parks, zoos, gardens, housing developments and small to medium municipalities. Can also be used to supplement existing wastewater treatment plants.

# MEMPAC™ - M (MUNICIPAL)



**A:** Detachable screen platform with 2 mm influent screen (Simplex or duplex with washer/compactor)

**B:** Aluminum stairs and platform(s)

**C:** All process analytical sensors are mounted on the Cloacina Slide Rail System and are accessible from the inspection platform

**D:** Corrosion-resistant 304 stainless steel tankage and components come standard

**E:** Redundant membrane equipment

**F:** The electrical panel and controls system are factory-installed and tested prior to shipping

**G:** Low maintenance regenerative blowers with optional sound attenuation

**H:** Open flow channels between tanks

**I:** Full length catwalk between all tanks for maximum access

**J:** Movable Davit crane to lift submersible equipment

**K:** Submersible mixers and pumps mounted on Cloacina's Slide Rail System

Prior to delivery, clients will be given connection locations for power, communication, influent, effluent and WAS.

**MEETS STRINGENT MUNICIPAL DISCHARGE AND RE-USE REQUIREMENTS**