

Wastewater Solutions for Breweries E-Book

Midwest Brewer Goes Packaged Lift Station



CA Brewery Reusing Water after Treatment



INTL Brewer Tackles High-Strength Wastes



CA Bev Producer Reusing Water (LEED Upgrade)





Smith & Loveless Inc.

Wastewater Solutions for Breweries e-Book

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Major Dominican Republic Brewer Sets High Environmental Standards



Location: Dominican Republic
Product: Model R OXIGEST® Treatment System
Avg. Flow: 3 MGD (11,300 CMD)

Influent BOD: 450 mg/L
Influent TSS: 450 mg/L



This brewery located in the Dominican Republic is one of the largest in the country, producing hundreds of thousands of barrels of beer each year and representing approximately 3 percent of the country's gross national product. As the company grew, they found themselves in need for a new wastewater treatment facility to process more than 3 million gallons per day (MGD) of high-strength process wastewater, which included BOD / TSS in quantities of 450 mg/l.

The brand places a corporate focus on environmental protection and renewable practices, including using recyclable material in its bottles and minimizing the pollutants created by the beermaking process. Therefore, the company sought a state-of-the-art technology for their waste-processing facility. After careful consideration of multiple system options, the **Model R OXIGEST®** Wastewater Treatment System was ultimately selected due to its superior treatment quality

and its unique space-efficient design enabling the preservation of precious facility land for other plant operations.

This system's unique concentric tank design combines multiple treatment zones in one package, including flow equalization, biological, aerobic and sludge holding zones. This design also eliminated external pumps, yard piping and service walkways, further saving on costs and footprint.

Despite the high-strength nature of the wastes produced by the beermaking process, the **Model R OXIGEST®** system effectively treats these wastes with ease and produce a high quality effluent that easily meets the local ISO Quality and Environmental Management Standards for direct discharge.



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Major CA Brewer Achieves Environmental Excellence with Reuse

ADDIGEST®



Application:

Brewery-CA

Product:

ADDIGEST® Wastewater Treatment System

Requirements:

Water Reuse / Reclamation

Peak Flow:

30,000 GPD (114 CMD)

Influent BOD:

300-500 mg/L

Effluent BOD:

30 mg/l

Dimensions:

50'(L) X 28'(W) x 18'(H)

This Northern Californian brewer enjoys the status of being one of the ten largest micro-brewers in the United States, producing several hundred thousand barrels per year from its Northern California location. Driven by a philosophy that incorporates quality production with environmental responsibility, the brewer sets standards with its successful tasty ales and its noble environmental practices.

This was typified when the city proposed applying surcharges to the brewery for the high strength wastewater entering the city system. In response, the brewer chose to pretreat all of its wastewater on-site and reuse as much as possible, limiting the demand put upon the city system while maximizing many recycling benefits. In consultation with its engineer, the brewer designed a comprehensive

treatment scheme that featured anaerobic treatment followed by a Smith & Loveless **ADDIGEST®** treatment system for aerobic polishing prior to reuse and discharge.

The entire on-site scheme handles up to 0.3 MGD with initial high-strength loadings of 6800 mg/L. The process-flexible **ADDIGEST®** design incorporates a single aeration zone (28' wide by 50' long by 18' high; volume of nearly 175,000 gal.) and three hopper-style clarifiers. The **ADDIGEST®** routinely polishes the anaerobic stream down to 30 mg/L BOD, allowing the water to be recycled onsite and reused for spray irrigation and other purposes around the facility. The rest of the water is discharged safely into the city sewer, actually helping to dilute the solids levels at the WWTP.





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Eco-Friendly Producer of Alcoholic Beverage Reuses Wastewater



Application:	Healdsburg, CA	Peak Flow:	9,500 GPD (36 CMD)
Product:	TITAN MBR™ Wastewater Treatment Plant	Influent BOD:	7,700 mg/L
Installation:	2017	Influent TSS:	1,000 mg/L
Requirements:	Water reuse/reclamation	Influent TKN:	45 mg/L
Avg. Flow:	4,734 GPD (18 CMD)	Effluent BOD/TSS:	Less than 10 mg/l
		Dimensions:	52' X 12'

When this California producer of fruity alcoholic beverages decided to expand and open a second production and bottling facility, the company sought to go as green as possible with eco-friendly features throughout their production process. It became the first to win the highest level of recognition for its environmentally friendly and efficient facilities in a new construction. A key component of the water efficiency aspect to the green production is Smith & Loveless' **TITAN MBR™** membrane bioreactor system.

Along with low water fixtures, energy-efficient windows and doors, and solar panels, the installation of the **TITAN MBR™** helped the winery earn the LEED (Leadership in Energy and Environmental Design) Platinum Certification in 2018.

The **TITAN MBR™** treatment system economically delivers the highest quality effluent, allowing the company to reuse its water for nonpotable secondary purposes. The **TITAN MBR™** is designed for industrial facilities like beverage makers to simplify operation and reduce maintenance costs so that they can focus on other critical plant functions.

Aside from its environmental efficiency benefits, the **TITAN MBR™** allowed the company to preserve its critical facility space. In order to treat wastewater, many industrial users dig lagoons, which can take up their precious land. With S&L's compact design, this beverage maker saved an extra two acres of land they would have otherwise lost, all while using an efficient system.



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TITAN[™]

MBR

Performance

Robust Design

Value

Easiest MBR O&M



Packaged MBR Treatment with the Easiest O&M and Water Reuse

The packaged **TITAN MBR[™]** Membrane BioReactor (MBR) is the most cost-effective solution for enhanced wastewater treatment and water reuse for private developers, industrial facilities and federal / military installations. Enhanced to make operation more automated and simpler, and regular maintenance safer and less frequent than any other membrane system, the **TITAN MBR[™]** features compact models with the ability to efficiently achieve customized effluent goals, including water reuse, side-stream scalping and green certifications such as LEED and Title 22.

Easy to Install. Robust Plant Designs

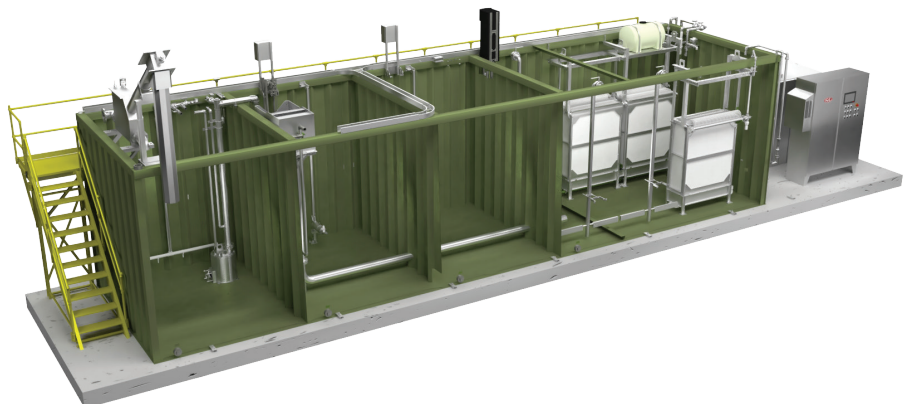
TITAN MBR[™] systems utilize S&L flat-sheet membranes to meet or exceed the most stringent regulatory standards for direct discharge and secondary reuse. Designed with rugged stainless steel componentry and pre-wired cable trays, designs have been simplified for a truly factory-built plug-and-play system. The only thing installed on site is a fine screen. Pre-engineered systems range in capacity from 1,000 GPD (3.8 m³/d) to 0.1 MGD (1,890 m³/d).

Complete Project Support

From the beginning stages through design, delivery and start-up, we are there to assist you with complete project support, including design calculations, drawings, process selections, start-up and after market service Smith & Loveless pioneered single-source responsibility for wastewater equipment more than 65 years ago, and we look forward to serving our customers for decades to come.

TITAN MBR[™] Benefits

- Complete project support by S&L
- Robust plant design
- Plug and play installation
- Extremely space-efficient
- Models as narrow as 8' (2.4m) deep
- Easiest O&M of any MBR



FEATURED WASTEWATER SOLUTION:



Smith & Loveless Inc.



Field-Erected Treatment Plant

Flexible Processes

Space-Efficient Design

Automated Controls

Simplified O&M

The Model R **OXIGEST**® field-erected treatment plant achieves BOD/TSS, nutrient removal, and water reuse for flows up to 5 MGD (19,000 cmd) in a single tank. Its concentric design with integral biological treatment zones eliminate expensive sludge pumps and yard piping while minimizing installation expenses, land usage and construction time. **IntelliTANK**™ automation and remote intelligence really simplify maintenance and allow for a stable operation. S&L offers complete installation service.

Model R **OXIGEST**® offers flexible treatment for a variety of process options. Each preengineered system is custom-built for your specific needs, and can be utilized in a wide variety of process variations, including grit removal, flow equalization, nitrification, denitrification, re-aeration, chlorination, dechlorination, sludge storage, or other specialized treatments. A few popular **OXIGEST**® process variations are illustrated below.

Design Benefits

- Flexible Application with Multiple Treatment Processes and Options
- Adaptable for Large Capacities and High-Strength Wastes
- Concentric Tankage Minimizes Footprint and Yard Piping
- Design/Build Solutions with Field Erection Support

Design Parameters

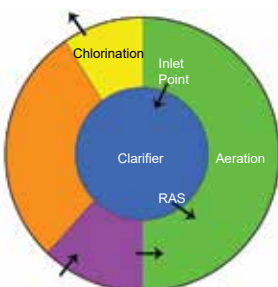
Flow Capacities:

0.1 MGD - 5 MGD
(380-18,925m³/day)

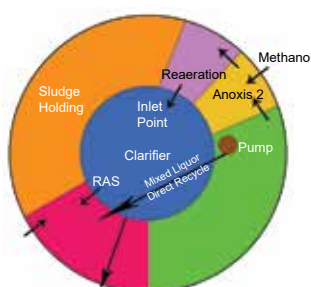
Waste Strength:

Up to 5,000-7,000 mg/l BOD
Up to 15,000 mg/l COD
Up to 6,000 mg/l TSS

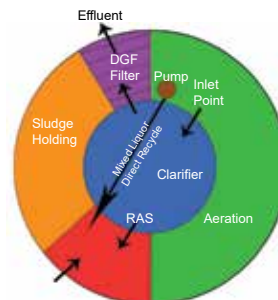
Flow Equalization



Advanced Nitrification/Denitrification



Tertiary Treatment



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ADDIGEST® Delivers Economical Aerobic Wastewater Treatment

The factory-built **ADDIGEST®** is an aerobic wastewater treatment system designed for both municipal and industrial applications. The trade name **ADDIGEST®** is derived from “add-on-digestion” and attests to the versatility of this system. It offers treatment from basic BOD and TSS removal to nutrient removal and advanced treatment arranged in a single factory-built tank.

Design Flexibility

- Customize the system for any level of treatment, ranging from basic BOD removal to advanced treatment suitable for water reuse.
- Handles treatment for extended aeration loadings up to 56,000 gpd (212 cmd) in a single manufactured tank. For larger capacities, see Factsheet 1246-2, which features the field-erected **ADDIGEST®** wastewater treatment system.
- Add either hopper bottom type clarifiers or all steel circular clarifiers with rotating sludge collectors.
- Choose either above or below grade installation.
- Meet space requirements with end-to-end or side-by-side installation, ensuring an efficient footprint for multiple tank installations.
- Simplify restrictive shipping limitations with the availability of component and weld together units.

- Design offers virtually unlimited capacity and wastewater treatment capabilities.
- Design makes the factory built **ADDIGEST®** easy to install and operate with little routine maintenance.
- Inspection occurs on every factory built **ADDIGEST®** prior to shipment, ensuring quality.
- V-crimped structural walls create greater volume per unit-dimension than a circular cross section, reducing corrosion compared to plants with I-beams for structural reinforcement.
- V-crimp also provides greater rigidity and economy in manufacturing, while minimizing weight.
- **VERSAPOX®** coating on all surfaces ensures the best resistance against corrosion and abrasion.



*The **ADDIGEST®** is proven in hundreds of installations.*



ADDIGEST®



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Request Catalog



Make Project Inquiry



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