



WASTEWATER TREATMENT FOR THE FOOD & BEVERAGE INDUSTRY

HEADWORKS PROCESS EXPERTISE/TECHNOLOGIES TAKE
THE BITE OUT OF HIGH-STRENGTH WASTEWATERS

THE TREATMENT CHALLENGES

The food and beverage industry broadly encompasses dairy and meat processing, slaughterhouses, poultry production, breweries and distilleries, and bottling and packaging processes. Wastewaters generated by these activities are commonly characterized by medium to extremely high concentrations of:

- Biological oxygen demand (BOD) and chemical oxygen demand (COD)
- Total suspended solids (TSS)
- Organic nitrogen and ammonia (Total Kjeldahl nitrogen, or TKN)
- Fats, oils, and grease (FOG)
- Associated odors.

These wastewaters require targeted treatment to achieve regulatory standards for safe discharge to the environment or sewer main or for beneficial re-use. Initial and ongoing treatment costs and the plant footprint required are major concerns for owners and operators charged with fine-tuning operations and increasing profitability.



HEADWORKS OFFERS IDEAL PROCESS SOLUTIONS

Headworks engineers are experts at solving treatment process challenges. Employing Headworks ActiveFloat™ Dissolved Air Flotation (DAF) for primary treatment of FOG and TSS, plus Headworks ActiveCell® Moving Bed Biofilm Reactor (MBBR) single pass or Integrated Fixed-Film Activated Sludge (IFAS) return sludge technologies, our design engineers have the ideal tools to treat all manner of process wastewaters generated by the food and beverage industry. Additionally, when higher strength wastewaters (COD>3,000 mg/L) are encountered, Headworks offers its EnergyCell™ anaerobic MBBR technology coupled with an aerobic MBBR polishing stage to improve overall treatment.





ActiveCell® media supporting biofilm growth

HOW YOUR WASTEWATER TREATMENT PROCESS WILL BENEFIT:

Concentrated Treatment

Thousands of proprietary ActiveCell® biofilm carriers (media) support massive biofilm growth to enable high-rate BOD removal and protect the biofilm from shock loads, fluctuations in flows and temperatures, and toxic chemicals

Small Footprint

Enhanced treatment capacity requires minimal volume and footprint

Easy Expansion

Modular treatment system allows multi-step plant expansion by adding more media and installing more treatment modules

Resilient Process

Treatment can handle wide swings in flow and influent quality and offers easy recovery from washout situations as attached growth provides an inventory of biomass

Nutrient Control

The system can be designed to provide high-rate nitrification and denitrification for nutrient removal

Durability

The heart of the process, the ActiveCell® media, will last for 20 years before replacement is required

Low Maintenance, Simple Operation

Self-regulating process automatically responds to fluctuations in organic loads without the need for operational adjustments

Flexibility

Multiple sizes and configurations are available

Odor Control

Treatment odors can be contained and easily mitigated

Biogas Production

For high COD wastewaters requiring anaerobic treatment, biogas (composed of roughly 60% methane, 40% carbon dioxide) is a by-product that can become a renewable energy source benefiting the overall treatment process

Polishing

Re-use water quality is attainable with minimal solids-handling requirements.