ALPHA WATER & POWER

Grease Water Technology Solutions

WASTEWATER | GREASE TRAP | WATER TREATMENT & REUSE





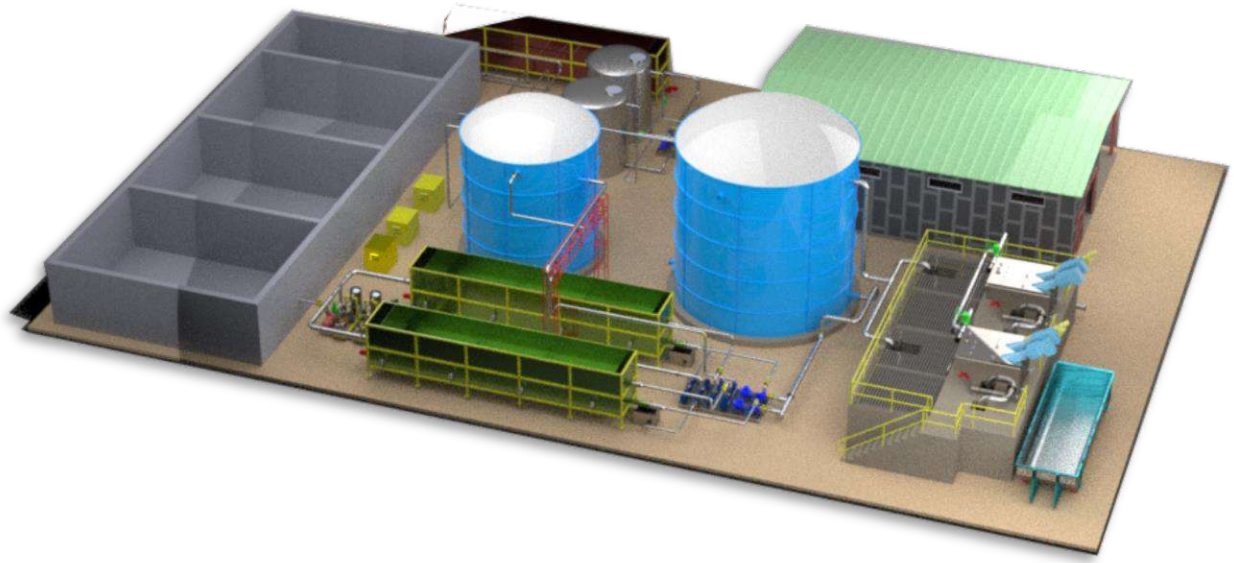
About **Us**

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The Future of Grease Water Technology

Wastewater Management Strategy

- Our Team has a combined 100+ years experience in the water remediation industry.
- We have built out over 400+ plants/facilities to date.
- We are the only company in the world that can address the clean up of ANY site.
- Our team is versatile and can be deployed immediately to assess any project within 48 hours.



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Our **Difference**

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Patented, Unique Technologies

Our patent pending technology for the treatment and conversion of Brown Grease Plant

Leaders in Wastewater Innovation

We set the industry standard based on proven techniques and deployment of our systems in the field.

National & Global Credibility

We have been extensively vetted for the most complex worksites and projects in the U.S.A. and Abroad.



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Our **Services**

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Chemical Blends For Enhanced sludge dewatering



Closed Loop Drilling Process

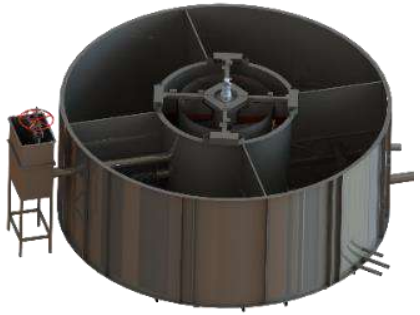


Sustainable Brown Grease Recovery System (US Patent Pending Process)



Mining Wastewater Treatment & Solids management





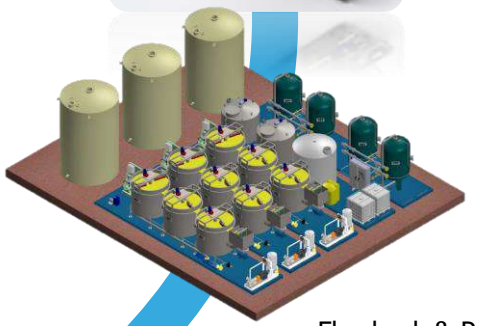
AWP MBBR with Built in DAF unit For Wastewater Treatment



FOG Resource Recovery System From Poultry, Beef, Pork Processing Plants (US Patent Pending Process)

Pulp Mill Dewatering and WWTP Design







Flowback & Produced Water Treatment & Reuse



Municipal Wastewater/ Solids Handling



Oily Sludge Dewatering and Management



Advanced Grease Interceptor (US Patent Pending Process)

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- Separate FOG by specific gravity
- Poor brown grease removal rate (≤50-70%)
- Lower grease and solid content (≤ 3-5%)
- High liquid hauling and disposal tipping fee
- Larger space required
- Overload to WWTP and landfill



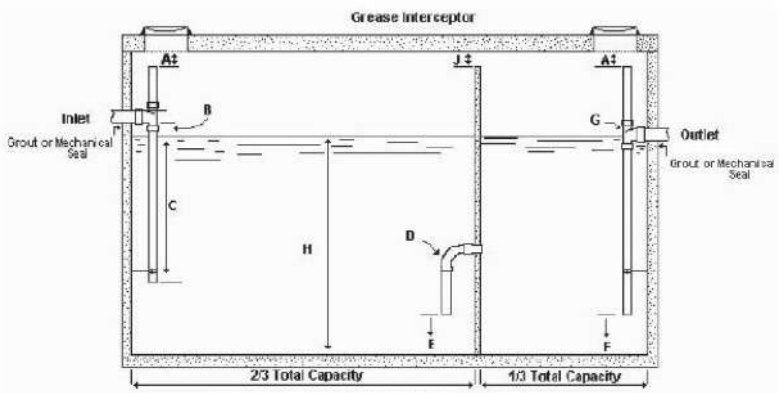
NERL Projected National Grease Waste Production

Name	Unit	Value
Yellow Grease	pound/year/person	9
Trap Grease or Brown Grease	pound/year/person	13
Total Waste Grease	pound/year/person	22

Adverse Impact to City Sewer and WWTP

- Plug private lateral sewer line
- Blockage of sanitary sewer line
- Sewage overflow, spill, and backup
- Clogging soil pores and leachate fields
- Anaerobic condition and odor issues
- High strength organic matter to WWTP
- Increase operation & maintenance cost of WWTP

Conventional Grease Interceptor



In most of states, the grease traps must be emptied and cleaned out at least once every three months, or when FOG contents are built up to 25% of the operational volume.



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The AWP patent-pending continuous cleaning grease trap (CCGT) is a compact, advanced system designed to efficiently intercept, remove, and recover fat, oil, and grease (FOG) from wastewater in restaurants and food service establishments. It uses coagulants, flocculants, and a small amount of ozone for enhanced FOG removal and odor control. The system continuously removes FOG, allowing water to flow at permitted levels while concentrating FOG up to 12-15%, reducing waste and saving on disposal costs.

- Flow-through system
- Continuously remove FOG and store FOG
- Enhanced brown grease capture by micron bubbles
- Excellent Brown grease removal (≥95-98%)
- Higher grease and solid content (≥10%)
- Reduce grease hauling up to 90%
- Save disposal tipping cost
- Compact design
- Reduce effluent FOG/BOD loadings to WWTP and leachate land

Continuous-Cleaning Grease Trap (CCGT)
(US Patent Pending Technology)

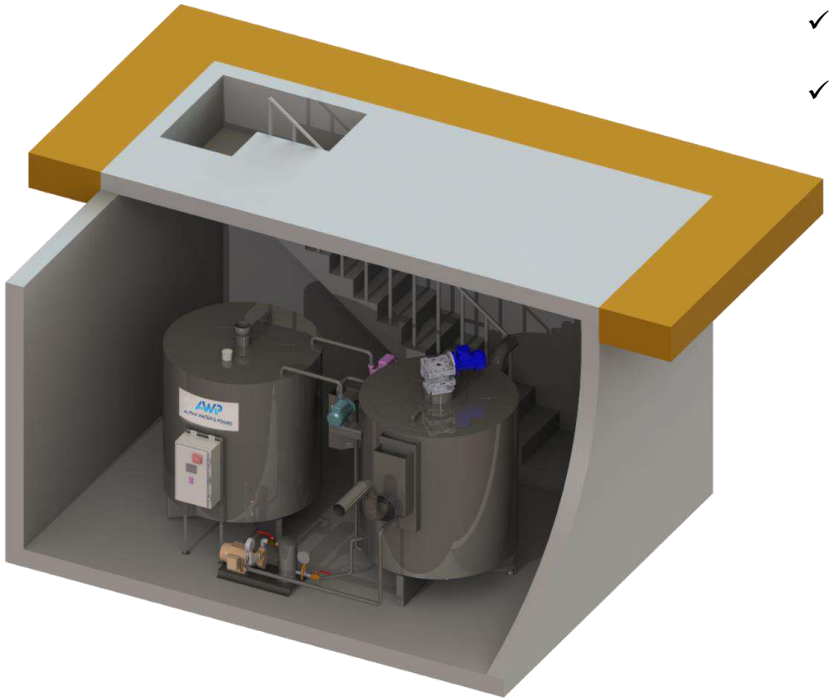
Model	CCGT-12000	CCGT-36000	CCGT-60000
Flow, gpd	12,000	36,000	60,000
Service Person	600	2,000	3,000
Diameter, ft	4	6.67	10
Height, ft	3,700		
Electricity	3 Phase, 240/480 VAC	3 Phase, 240/480 VAC	3 Phase, 240/480 VAC

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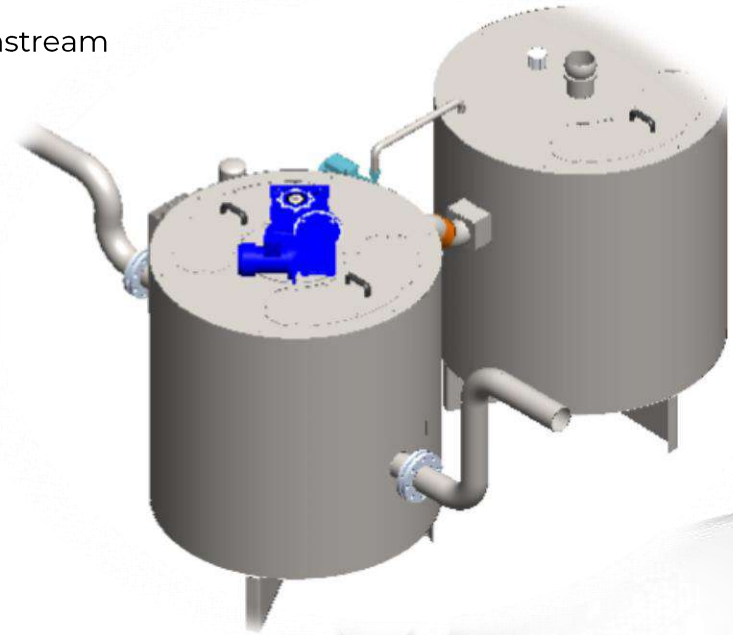
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- ✓ Continuously clean grease trap
- ✓ Inline installation
- ✓ Eliminate plugs in pipe and septic tanks
- ✓ Eliminate surcharges from downstream POTW



CCGT-12000
Underground Installation



CCGT-12000
Above Ground Installation

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CCGT-36000

Above Ground Installation

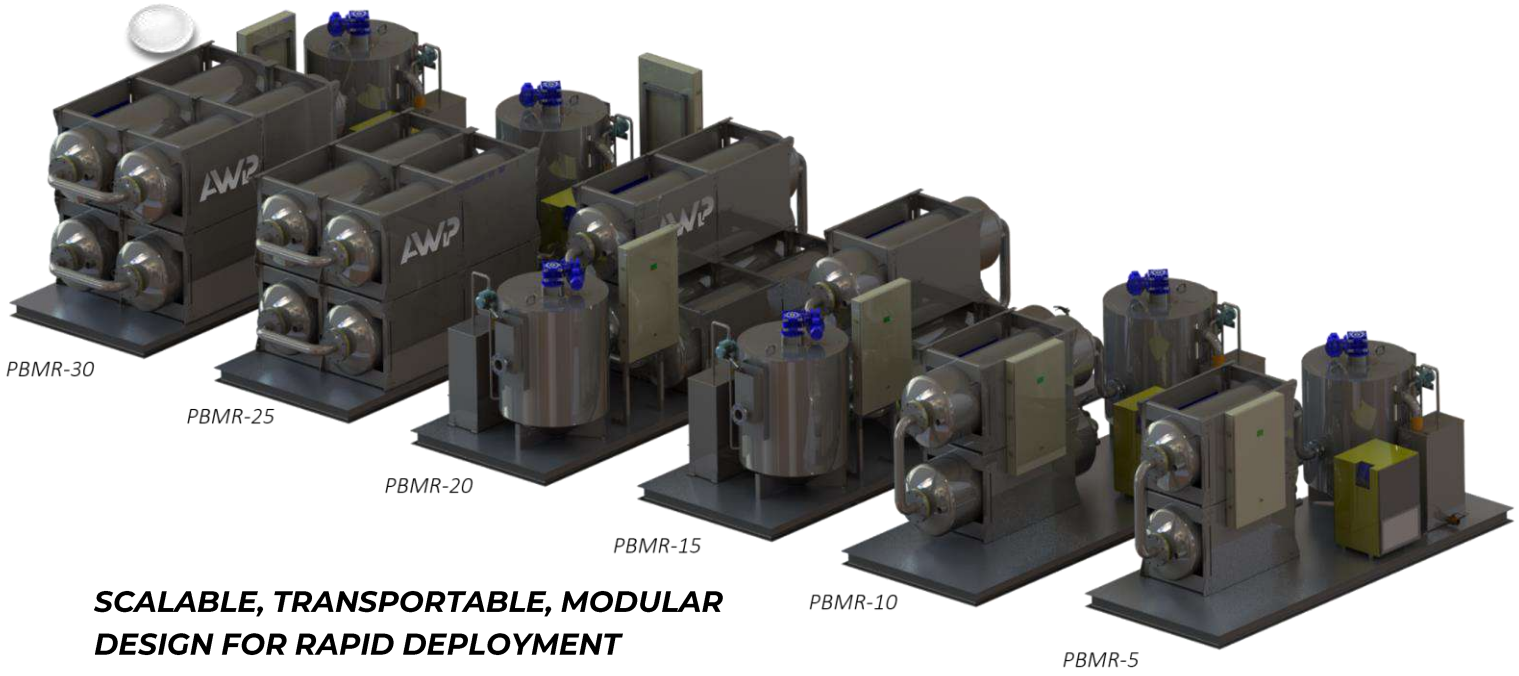


CCGT-36000

Underground Installation

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SCALABLE, TRANSPORTABLE, MODULAR DESIGN FOR RAPID DEPLOYMENT

- Integration of physiochemical and biological treatments in a single skid-mounted machine.
- Two or three-stage aerobic bio-media reactors (BMR) for effective BOD removal.
- Pressurized vessels for high oxygen transfer efficiency.
- Increased specific surface area on bio-media to support greater microorganism growth.
- Secondary DAF unit to separate biomass from water and remove TSS.
- Dissolved off-gas from BMR creates microbubbles to float TSS and particulates in the secondary DAF unit.
- Concentrated waste sludge reduces transportation and disposal costs.

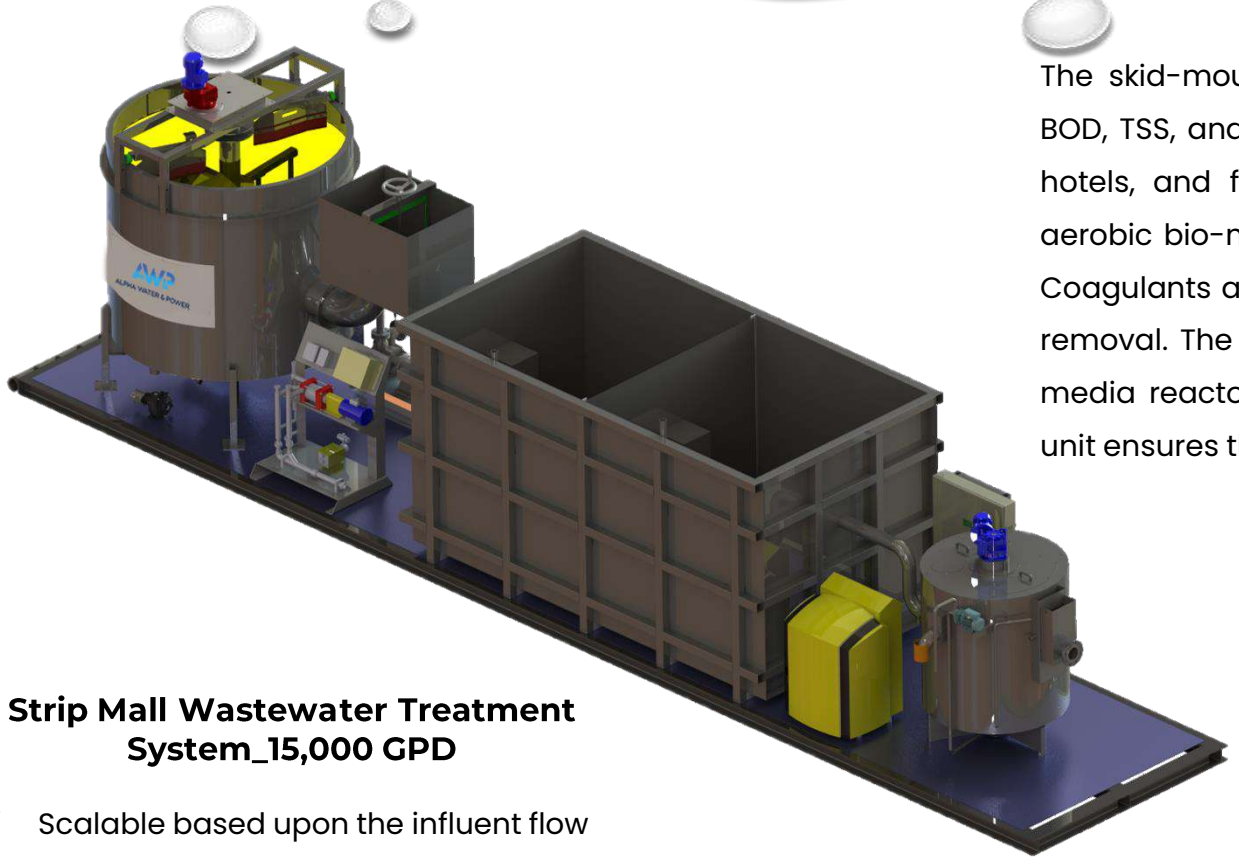
Pressurized BMRs

Parameter	PBMR-5	PBMR-10	PBMR-15	PBMR-20	PBMR-25	PBMR-30
Flow, GPD	1,200	2,400	3,600	4,800	6,000	7,200
Influent BOD_5, mg/L	2,000	2,000	2,000	2,000	2,000	2,000
Effluent BOD_5, mg/L	250	250	250	250	250	250
Influent TSS, mg/L	500	500	500	500	500	500
Effluent TSS, mg/L	250	250	250	250	250	250
Dimensions: LxWxH (ft)	15.5x6.4x6.5	18x6.4x6.5	18x6.4x6.5	19.2x6.4x6.5	19.2x6.4x6.54	19.2x6.4x6.54
Treatment Level	Secondary Treatment Standards or Type II Reclaimed Water Quality Standards					

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Strip Mall Wastewater Treatment System_15,000 GPD

- ✓ Scalable based upon the influent flow
- ✓ Unique modular machine design allowing easy shipping and easy installation onsite
- ✓ Skid mounted to limit and save onsite construction works
- ✓ Small footprint

The skid-mounted strip mall wastewater treatment system effectively removes BOD, TSS, and FOG from various facilities like restaurants, bars, shopping centers, hotels, and fuel stations. The system includes a primary DAF unit, two-stage aerobic bio-media reactors (BMRs), a secondary DAF unit, and a sludge digester. Coagulants and flocculants are added to both DAF units to enhance TSS and FOG removal. The primary DAF unit removes FOG, TSS, and partial BOD, while the bio-media reactors target BOD removal in two functional zones. The secondary DAF unit ensures the effluent meets city sewer or POTW discharge limits.

Scalable, Transportable, Modular Design for Rapid Deployment

Parameter	Influent	Discharge Limits (No Surcharges)
Flow, GPD	15,000	
TSS, mg/L	1,500	≤250
BOD, mg/L	3,000	≤250
FOG, mg/L	500	

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