



INTRODUCTION

Clean Water Technology, Inc., the creator of the Gas Energy Mixing (GEM) System, introduces their newest in technology The GEM - D Series for municipal water and wastewater applications. The GEM-D Series is a hybrid dissolved air – flotation system.

What makes the GEM-D Series better than the rest?

- Introduction of air through Liquid Solid Gas Mixers (LSGM).
- Thick layers of bubbles act as a filter, preventing smaller particles from sedimenting to the bottom.

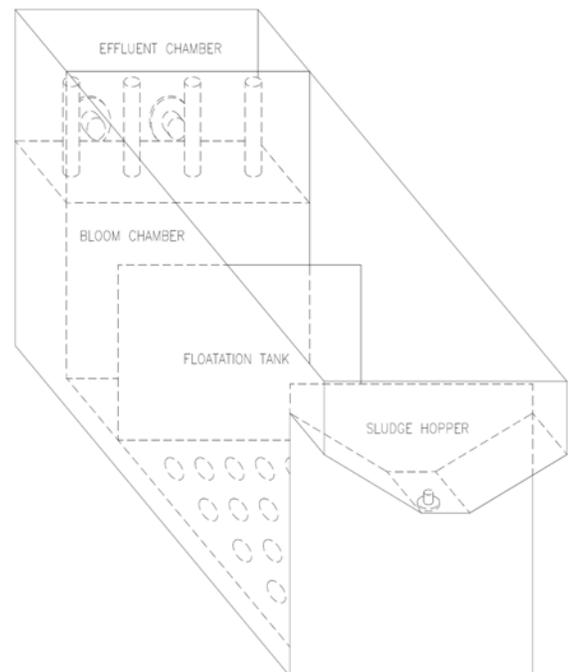
ADVANTAGES

- Phosphate Removal
- MLSS Removal from activated sludge and MBBR aerobic bioreactors
- Algae Removal
- High Removal of TSS and COD
- Recycles 50% of the waste stream (If needed)
- Coagulant only - No additional Flocculants
- Can operate at 120 psi
- Drier Sludge
- Small footprint compared to other conventional technology

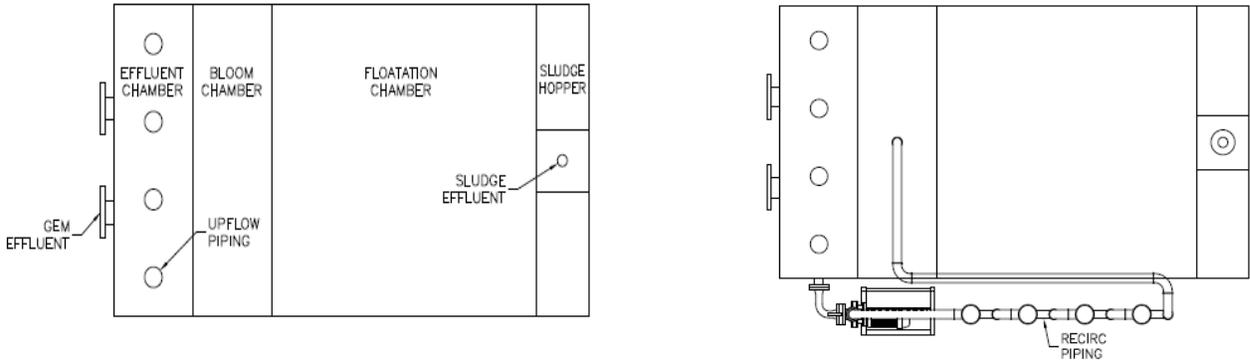
GEM-D PROCESS

The stream will enter the bloom chamber of the GEM-D System where it will be mixed with an aerated recycled stream. The aerated recycled stream will be taken from the end of the unit where water is cleanest. It will be pumped through the LSGM's under pressure while air is being dissolved. The stream will be saturated with air and once it is released in the bloom chamber it will form bubbles which will cause the particles to float to the top of the tank, forming a sludge layer.

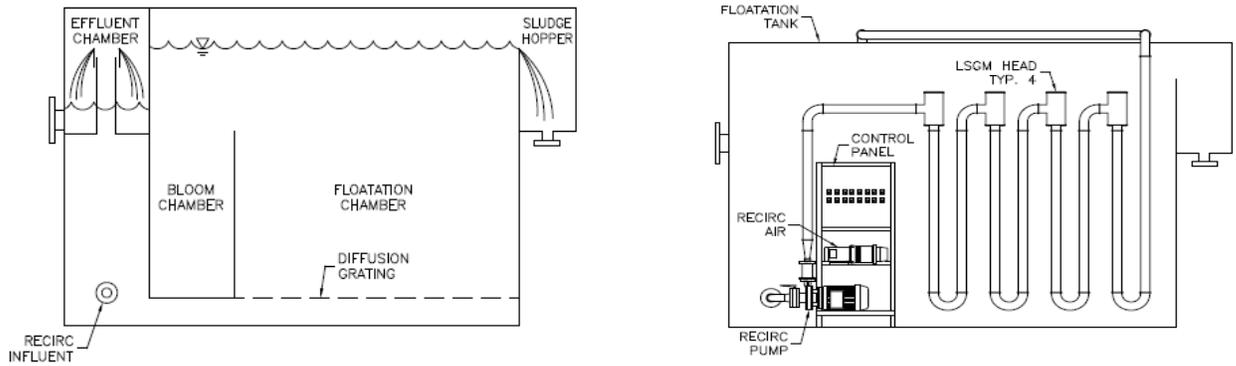
The sludge layer will float to top of tank and be carried via water flow to a sludge weir, where it will compact and fall into a dual sloped sludge hopper. The sludge will gravity feed to a sludge outlet flange. The clean water stream will carry across the length of the tank and will gravity weir out of the tank through a plate and pipe weir where it will gravity feed to effluent piping to the next process.



Top of GEM-D Series



Side of GEM-D Series



GEM-D Series System is the latest technology for water and wastewater treatment in municipal applications.

TABLE 1: GEM Effectiveness on Influent

PARAMETER	INFLUENT	EFFLUENT	PERCENT REDUCTION
TSS	110 ppm	8 ppm	92%
COD	650 ppm	180 ppm	72%
Turbidity	355 NTU	5 NTU	92%

