

Gas Flotation Tank (GFT®)

Secondary Produced Water Deoiling

The Gas Flotation Tank (GFT®) saves money and time. It quickly processes single-tank volumes as high as 1,000,000 BWPD to target outputs of <10 ppm. By combining the design of an API tank and flotation vessel into a single unit, the GFT greatly reduces capital and tie-in costs while achieving retention times of about one hour versus 4 to 6 hours with typical skim tanks. The system can operate over a wide range of flows, allowing production to ramp up as the field expands, saving the expense of engineering and installing multiple water treatment trains. With minimal costs, Enerflex can also retrofit existing tanks into GFT's.

How It Works

The GFT uses fluid hydraulics through multiple chambers coupled with Microbubble Flotation (MBF®) to optimize oil-in-water (OIW) separation. Produced water enters the chambers sequentially as microbubbles are introduced. Oil is lifted upon the bubble layer and is skimmed off by overflowing an oil weir. The water then flows into the next chamber where more microbubbles are introduced and more oil is separated. The process drives itself hydraulically through all chambers, and water exits the system at targets as low as <10 ppm. The GFT can handle complex separations at high volumes with no disruptions due to variations in flow rate or oil concentration.

Key Benefits

Cost Saving

- Combines gravity tank and induced gas flotation processes for lower total costs
- Easily retrofit existing tanks to make your current investment work harder
- Lower install costs with less equipment and easier tie-in
- Fewer pumps, valves, and chemical requirements to lower the operating costs
- High-performance MBF reduces chemical treatment costs
- API-based GFT allows more economic inspection and recertification than IGF vessels

Better Performance

- Better oil separation through MBF and sequential treatment
- Multi-chamber design buffers variations in flow rate and oil concentration
- No internal moving parts means higher reliability
- No rotating seals, thus eliminating fugitive air emissions
- Guaranteed performance results with our design validation and characterization services

Flexibility

- Ability to treat difficult fluids such as heavy oils, emulsions, high viscosities, and polymer applications
- Wide turndown range allows virtually any flow rate
- Commercial models include equipment sale, licensing, and operating contracts



Standard Features

- MBF technology via Onyx® Pump or Gas Liquid Reactor (GLR®)
- API or EN tank design code
- Instrumentation and controls
- GFT outlet control valve
- Complete process review

Materials of Construction

- GFT: internally coated carbon steel
- Piping: internally coated carbon steel
- Onyx Pump: Duplex SS
- GLR vessel: internally coated carbon steel

Standard Options

- New-build or retrofit to existing tanks
- Single, dual, or multi-chambered tank solutions
- Water characterization services
- Chemical treatment selection services
- CFD modeling of proposed tank design
- Upgraded materials for pumps, valves, instruments, and piping
- Ancillary equipment such as transfer pumps and chemical injection
- Cold-weather protection such as skid enclosure and tank insulation
- Other options as required to meet specifications

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