

Multi-Tank GFT®

Multi-Tank Produced Water Deoiling

Utilizing the multi-chamber design principle of Enerflex's GFT® (Gas Flotation Tank) technology, the Multi-Tank GFT enables each flotation stage to occur in an individual, shop-built, single-chamber tank. By installing a series of 3 to 5 tanks, the system can handle flows up to 100,000 BWPD. Compared to conventional flotation units, this system offers 5 to 10 times more retention time than traditional technologies and can operate across a wide turndown range without sacrificing performance.

How It Works

The Multi-Tank GFT uses fluid hydraulics through multiple tanks to optimize oil-in-water separation via Microbubble Flotation (MBF®). Produced water enters the tank system sequentially as microbubbles are introduced. Oil is lifted upon the bubble layer in each tank and skimmed off by overflowing an oil weir. The water then flows to the next tank where more microbubbles are introduced to encourage further separation. This process drives itself hydraulically and produced water exits the last tank in the system with outputs as low as <10 ppm.

Key Benefits

Cost Saving

- Simple and calculated design reduces overall CAPEX
- Capable of eliminating the need for a primary treatment stage
- Simplicity of the tanks makes this configuration extremely easy to operate and maintain, lowering OPEX costs

Better Performance

- Optimized flow patterns for enhanced performance
- Proven to maximize the actual residence time by eliminating short-circuits and dead zones
- Risk of re-entrainment and remixing of oil and water is eliminated by the flow pattern of the tanks

Flexibility

- Shop-built tanks simplify logistics and drastically reduce lead time
- High retention time and the superior hydraulic pattern (compared to conventional flotation systems) allows this design to better handle surges and upsets
- Wide turn-down range



Standard Features

- MBF technology via Onyx® Pump or Gas Liquid Reactor (GLR®)
- API or EN tank design code
- Flexible tank layout to meet footprint limitations

Materials of Construction

- Tanks: internally coated carbon steel
- Piping: Carbon steel with optional internal coating
- Onyx Pump: Duplex SS
- GLR vessel: internally coated carbon steel

Standard Options

- New-build or retrofit to existing tanks
- Outlet booster pump and control valve
- Water characterization services
- Chemical treatment selection services
- CFD modeling of proposed tank design
- Upgraded materials for pumps, valves, instruments, and piping (316SS, DSS, or non-metallic)
- Ancillary equipment such as transfer pumps and chemical injection
- Cold-weather protection such as skid enclosure, tank insulation, and heat tracing
- Other options as required to meet specifications

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