

PDGF Dissolved Gas Flotation

Our Dissolved Gas Flotation technology includes a specially designed pump that creates the microbubbles needed for this high efficiency flotation system.

This compact flotation unit has been used onshore and offshore for treating produced water to remove free oil. It is an ideal solution for larger volumes and tough operating parameters due to the microbubble populations and sizes that are generated, which are ideal for creating collisions between oil and suspended solids. These bubbles adhere to the contaminants and allow them to float to the surface at a high rate.

How it Works

The dissolved gas flotation pump functions without the air saturation tank or the compressor. An impeller design creates a sub-atmospheric pressure region in the seal chamber. Gas is naturally aspirated into the seal chamber, (i.e. blanket gas on the vessel) then mixed with pumpage and compressed into micro-bubbles. The bubbles are then dissolved into the pumpage and moved through the discharge of the pump and out to the process. The bubbles are released by means of a pressure drop induced by a globe valve before entering the vessel. The gas bubbles then attach to oil droplets assisting in the water/oil separation.

Common Applications

- Onshore & Offshore Production
- Secondary Produced Water Treatment
- EOR

Key Benefits

- Proven Technology
- Adjustable Bubble Diameter
- 25% Recycle Rates
- Smaller, denser and uniform bubble created for optimal performance vs tradition flotation
- Best Available Technology for Flotation Performance (reclaim and/or remove more oil)
- High turndown ratios
- Designed to handle upset situations and slugging of oil and gas
- Easy maintenance and minimum operation cost
- Reduced pre-treatment chemical consumption (i.e. coagulant and flocculant)
- May be installed as stand-alone vessel or in series
- Lower power and sludge handling requirements

Standard Features

- ANSI flanged inlet and outlet connections
- Designed to ASME, ANSI, CRN, PED, and NACE industry standards

Materials of Construction

- Various materials available