Centrifuge

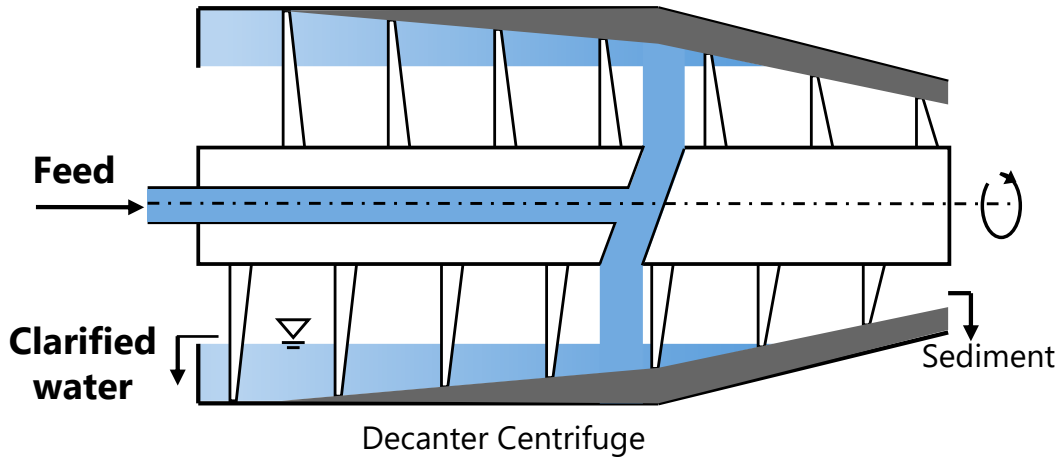
Process Description

Centrifuges are physical separation technologies that use centrifugal force to separate liquid-liquid or liquid-solid mixtures based on density differences. Centrifugal forces can accelerate separation rates by several thousand times compared with conventional gravity settling. Two configurations are dominant:

- Decanters are horizontal machines with cylindrical-conical bowls: the liquid phase is clarified in the cylindrical section while separated solids are dewatered in the conical section by an internal screw conveyor.
- Disc stack separators use a stack of conical discs to shorten the settling distance, suiting lower solid concentrations and smaller particle and droplet sizes.

Centrifuges are typically used for liquid clarification, oil-water separation, solids recovery, sludge thickening and dewatering, and process stream treatment across municipal and industrial applications. Altering pH and/or temperature can drive contaminants out of solution for removal by centrifugation.

Process Schematic



Decanter Centrifuge

Patent

Separation of kinetic hydrate inhibitors from an aqueous solution (Link)

For further information, please contact us at email: GWSC@conocophillips.com