

CONTINUOUS GAS LIQUID REACTOR TECHNOLOGY

Minerals Technologies Inc. is offering the opportunity to license technology to improve the cost effectiveness of a continuous gas liquid reactor.

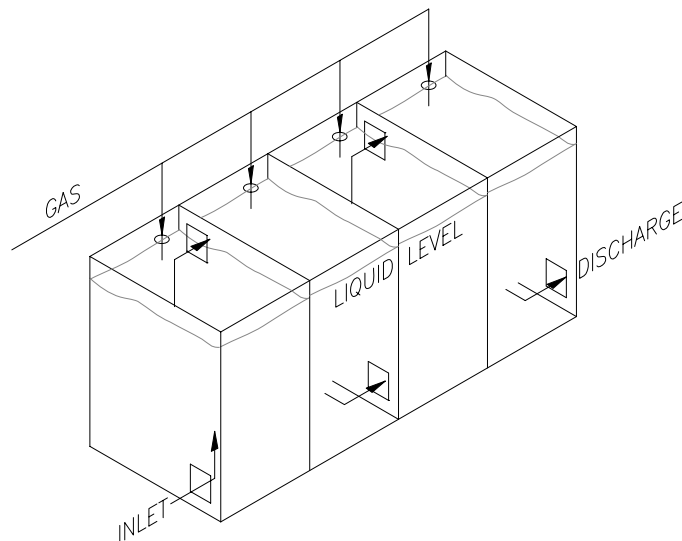
Background

Numerous chemical processes are carried out by contacting a gas and a liquid in a continuous or batch reactor. Optimizing the contact between the reactants can result in operating and quality benefits.

Minerals Technologies developed a continuous, open channel, plug flow reactor (HOC PFR) that offers significant potential benefits over batch reactors and continuous stirred tank reactors.

Benefits

- Reduced capital and operating costs.
- Improved throughput and product quality.
- Flexibility in plant design.



Continuous Gas Liquid Reactor Technology (Cont'd.)

Technology Description

The technology pertains to a method and apparatus for improving the contact between a liquid and a gas, either or both of which may be a reactant. The process causes the liquid to move in a tortuous, serpentine path both vertically and laterally through the reactor. As the liquid moves through the reactor, the gas is introduced below the surface in one or more locations.

Gas permeating from the liquid can be captured at the top of a dynamically sealed reactor. The technology includes the ability to collect and recycle unreacted gas to the process. Multiple recycle loops can be included between chambers to effect overall process efficiency and final product quality.

The technology offers tremendous design flexibility to maximize the process economics yet fit the physical constraints of a plant layout. The number and size of the chambers in the reactor can be varied. The reactor can be constructed in a single line or in banks arranged side-by-side.

Technology Status

The technology has been demonstrated in the laboratory, in multiple pilot plants, and has been constructed at full production scale. The technology is patent-protected.