

Abstract

SYSTEMS AND METHODS FOR USING COLD LIQUID TO REMOVE SOLIDIFIABLE GAS COMPONENTS FROM PROCESS GAS STREAMS

Systems and methods are described for removing solidifiable gas from a process gas stream by direct contact with a cold liquid. The process gas stream includes at least gas that is frozen by the cold liquid while one or more other gases of the process gas stream remain in a gaseous state. The process gas stream may include water, and will have a different composition than the cold liquid. The contacting of the cold liquid with the process gas stream may be at a pressure that is less than 200 psia, and optionally less than 100 psia, 50 psia, or even 30 psia, and the solidified gas may be removed from the contacting assembly as a slurry with cold liquid.

FIG. 6