

363d Different Solids Suspension Techniques in Flue Gas Desulfurization

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Solid suspension is a very important function of agitation equipment in Flue Gas Desulfurization (FGD) systems. If solids are not suspended sufficiently to clear the pump suction, the system performance suffers greatly. The suspension in these systems is complicated by the introduction of gas into the system.

Agitation techniques for achieving suspension are varied and include top and side entry mixer variations. In addition to suspending solids, the agitators may be required to disperse and blend the incoming gas as well. Older systems use side entry agitators and a network of pipes to introduce the gas into the system. Gas sparging is usually done above the agitation zone such that the gas and agitators do not interact. This type of injection system can also be used with top entering agitation equipment for the suspension of solids. New systems introduce the gas through sparge pipes near the impeller. When this is the case, the agitator must suspend the solids and promote gas-liquid contacting

Because different utilities and contractors use these different technologies it is important to understand each of the different styles. This paper will discuss the typical setups of each of these systems and demonstrate advantages and disadvantages of each of the systems.