

ABSTRACT

HIGH VELOCITY LOW PRESSURE EMITTER

An emitter for atomizing and discharging a liquid entrained in a gas stream is disclosed. The emitter has a nozzle with an outlet facing a deflector surface. The nozzle discharges a gas jet against the deflector surface. The emitter has a duct with an exit orifice adjacent to the nozzle outlet. Liquid is discharged from the orifice and is entrained in the gas jet where it is atomized. A method of operating the emitter is also disclosed. The method includes establishing a first shock front between the outlet and the deflector surface, a second shock front proximate to the deflector surface, and a plurality of shock diamonds in a liquid-gas stream discharged from the emitter.