

GAS TURBINE ENGINE WASH SYSTEMS AND METHODS

Abstract of the Disclosure

A wash system may include an inlet assembly (102, 202, 302, 402) comprising a first fluid conduit (104, 204, 304, 404) defining a first fluid passageway (105, 205, 305, 405) for delivering a gas and a second fluid conduit (1506) (106, 206, 306, 406) defining a second fluid passageway (107, 207, 307, 407) for delivering a liquid. The system may include a delivery nozzle (108, 208, 308, 408) that is coupled to the inlet assembly (102, 202, 302, 402), the delivery nozzle (108, 208, 308, 408) comprising at least one outlet opening (714) (614) (514) (214). The system may include a plurality of valves (116A, 116B, 116C, 216A, 216B, 216C, 316A, 316B, 316C, 416A, 416B, 416C) to control fluid flow into the delivery nozzle (108, 208, 308, 408)), the plurality of valves (116A, 116B, 116C, 216A, 216B, 216C, 316A, 316B, 316C, 416A, 416B, 416C) including a first valve (116A, 216A, 316A) in the first fluid passageway (105, 205, 305, 405) and a second valve (116B, 216B, 316B) in the second fluid passageway (107, 207, 307, 407). The system may include a controller configured to actuate the plurality of valves (116A, 116B, 116C, 216A, 216B, 216C, 316A, 316B, 316C, 416A, 416B, 416C) to cause the wash system to switch between a foam washing mode and a liquid washing mode, wherein the delivery nozzle (108, 208, 308, 408)) delivers a foam in the foam washing mode and delivers atomized liquid (403) in the liquid washing mode.

[Figure 1]