

SPRAY SYSTEM, POWER AUGMENTATION SYSTEM FOR ENGINE CONTAINING SPRAY SYSTEM AND METHOD OF HUMIDIFYING AIR

ABSTRACT OF THE DISCLOSURE

The present invention is spray system such as a nozzle array, for more effectively and efficiently delivering liquid spray to air before its intake into an engine, a power augmentation system for an engine comprising the spray system and a method for more effectively humidifying air. The system is comprised of a plurality of independently-operable nozzle stages, which divide the flow path into a plurality of subsections. A group of nozzle stages comprise a unit of the system, which is comprised of a plurality of repeating units. The units are spaced to allow air flow through. The nozzle array is configured to substantially equally humidify the air through each subsection. The design of the nozzle array achieves more uniform mixing of air and water close to the point of injection of the air and water across the entire water injection range. As such, it maximizes the time available for evaporation by the drops in air that is not oversaturated.

Figure 1