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"A THEORETICAL INVESTIGATION ON THE PERFORMANCE OF A ROTATING DISK ATOMIZER"

by

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S U M M A R Y

In this article a theoretical investigation on the characteristics of flow on and beyond to a rotating disk atomizer has been carried out. A mathematical model for the fluid flow and the velocity profile on the disk surface has been written. The mechanism of disintegration of the liquid film beyond the disk rim and the transition between three known different states of disintegration, designated, respectively, by; (1) drop formation, (2) ligament formation, and (3) film formation, has been evaluated. The power requirements for a rotary disk atomizers has been determined and compared with that required for pressure nozzles on the basis of equivalent capacities and spray characteristics.

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