

# 에어젯트직기의 air jet nozzle에서의 공기유동해석 및 설계에 관한 연구

(제 1 보) 주노즐관내에서의 유동해석

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## Abstract

As a basic study for improving the performance of main nozzle of an air jet loom with a modified reed and auxiliary nozzles, the double coaxial pipe jets which consist of a control round air jet(an inner jet) and an annular air jet(an outer jet) have been experimentally investigated. The outer jet has a potential core and a constant velocity. The inner jet from an inner long pipe is induced by the subatmospheric pressure near the inner nozzle edge, and its jet velocity is always lower than the outer. We measured the static pressure of the main nozzle, changing the nozzle tank pressures, and calculated the nozzle flow velocity and Mach numbers. Flow may reach the critical condition of Mach number of unity at the two positions in a main nozzle; one of them is the needle tip and the other is the acceleration tube exit. An increase in the tank pressure brings about the critical throat condition at the two positions above and the flow in the main nozzle is completely characterized.