

Thanapong Udomsilp 2009: A Study of Reversed System for Syrup Pump Leak in Sugar Cane Factory. Master of Engineering (Agricultural Engineering), Major Field: Agricultural Engineering, Department of Agricultural Engineering. Thesis Advisor: Associate Professor Prathuang Usaborisut, Ph.D. 140 pages.

The objectives of this research are to study and design the reversed system for syrup pump leak by using venturi tube to create a suction force. The efficiency of venturi tube with ratio of inlet and throat diameters at 5:1 was studied. By applying numerical method, it was found that the venturi tube with diffuser angle of 15 degree showed less recirculation flow when compared to those with diffuser angles of 20 and 30 degrees. Besides, the length of throat seemed to affect the pressure at the throat. When testing in actual condition, the venturi can operate well at inlet pressure not less than  $0.66 \text{ kg/cm}^2$  and outlet pressure not more than  $0.2 \text{ kg/cm}^2$ . The application test for 30 days confirmed that there was no leak of syrup in the system and there were no effects on both system performance and product quality.

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Student's signature

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Thesis Advisor's signature

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