พิมพ์ต้นฉบับบทคัดย่อวิทยานิพนธ์ภายในกรอบสีเขียวนี้เพียงแผ่นเดียว

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The purpose of this thesis is to study and design a cyclone for particulate reduction in flue gas and to compare the experimental results with the theoritical ones. The cyclone model is of the tangential inlet and axial discharge type; high efficiency, medium throughput pattern. The shapes and dimensions were designed by following the hypothesis of Stairmand where the cyclone 's performance could be evaluated by Leith and Licht.

This study show that the hot gas flow rate is an importance variable affecting the pressure loss, the average inlet gas temperature and cyclone 's efficiency. From the experiment it was found that the hot gas flow rate, the average inlet gas temperature and the pressure loss in cyclone were 0.554 and 0.568 kg/s, 335.4 and 334.2 °C, 236.79 and 314.74 kPa, respectively, the efficiency of particle collection of cyclone were found to be 94.27 and 91.22 percents for burning dried leaves and waste paper, respectively.

The results of particle size distribution analysis with 'MASTERSIZER' equipment indicated that the maximum efficiency was achieved for cyclone with particle size of 24.85 and 24.6 microns for burning dried leaves and waste paper, respectively.

Consequently, in performance analysis of cyclone with Leith and Licht 's hypothesis the trend of the results appears to be the same as those predicted by theory. The errors involved ranged from 1.43 to 10.12 percents.

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