

Pengaruh debit bahan terhadap kinerja dan temperatur minimum pengering semprot = Influence of substance flow on drying performance and minimal temperature spray dryer

Wilis Kurniawan, author

Deskripsi Lengkap: <https://lib.ui.ac.id/detail?id=20348134&lokasi=lokal>

Abstrak

Pengujian dilakukan untuk mengetahui hubungan antara temperatur pengeringan dengan laju pengeringan pada pengering semprot di Laboratorium Perpindahan Kalor dan Massa Departemen Teknik Mesin Universitas Indonesia. Variasi laju aliran udara sebesar 17,1; 24,2; dan 29,6 [m³/jam] diujicobakan bersama dengan tekanan nozzle 1 [bar], laju aliran bahan 0,15 [l/jam], 0,3 [l/jam] dan 0,45 [l/jam], dewpoint 10, 17, dan 23 (ambient) [0C], sebanyak 27 proses untuk vitamin C.

Dari percobaan yang sudah dilakukan, ternyata laju aliran udara mempengaruhi temperatur minimum pengeringan semakin besar laju aliran udara, maka semakin rendah temperatur pengeringan. Pada percobaan vitamin C pun laju aliran udara, dewpoint serta laju aliran bahan masuk mempengaruhi temperatur pengeringan dan kinerja pengeringan. Pengujian ini bertujuan untuk mengetahui masalah - masalah apa saja yang timbul.

.....Tests conducted to determine the relationship between the drying temperature with air flow rate on the spray drying in Laboratory Mass and Heat Transfer Department of Mechanical Engineering, University of Indonesia. Variation of air flow rate of 17,1; 24,2; dan 29,6; [m³/hour] tested along with pressure pneumatic nozzle 1 [bar] 0,15 fuel flow rate [l/hour] 0,3 [l/jam] dan 0,45 [l/jam], dewpoint 10, 17, and 23 (ambient) [0C], 27 process for vitamin C.

From the experiments that have been carried out on the water, it turns the air flow rate affects the minimum temperature the greater the drying air flow rate, the lower the drying temperature. Then experiments on vitamin C, intake air flow, dewpoint of air and flow rate of vitamin C, also affects the drying temperature. This test aims to determine any issue that arises.