

Thesis Title : Force and Velocity Measurement for Tablet Punch
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Abstract

The objective of the study, "Force and Velocity Measurement for Tablet Punch" are :
 1) to measure upper punch force, lower punch force, and upper punch velocity of a single punch tablet machine; 2) to design and write computer program for manipulate data from tablet compression experiments to computer; 3) to design and write computer program for compute and display data in numerical and graphical representation.

Metal-foil resistance strain gages were bounded to upper punch and lower punch holder. To measure the upper punch movement, a linear displacement transducer was installed to machine frame and upper punch. Signal of each sensors were connected to the measuring system, which included signal conditioning, analog-to-digital converter, interface board and a computer.

Computer programs are designed and written from PASCAL FOR WINDOWS computer language on TURBO PASCAL FOR WINDOWS compiler version 1.5. The program commands can be selected by mean of mouse pointer. It can display the relationships of upper punch force and time, upper punch force and displacement, as well as upper punch velocity. Microcrystalline cellulose(Avicel[®] PH 101) was compressed. The error of force, velocity and compackwork are 1.458%, 2.008%, 2.482% of reading respectively.