

Inverse Dynamics of the Mould Base of Blow Molding Machines

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Abstract : This paper deals with the study of devices for displacement of the mould base of blow-molding machines. The displacement of the mould in the studied case is carried out by a linear actuator, which ensures the descent of the mould base and by extension springs, which return the letter in the initial position. The aim of this paper is to study the inverse dynamics of the device for displacement of the mould base of blow-molding machines and to determine its optimum parameters for higher rate of production. In the other words, it is necessary to solve the inverse dynamic problem to find the equation of motion linking applied forces with displacements. This makes it possible to determine the stiffness coefficient of the spring to turn the mold base back to the initial position for a given time. The obtained results are illustrated by a numerical example. It is shown that applying a spring with stiffness returns the mould base of the blow molding machine into the initial position in 0.1 sec.

Keywords : design, mechanisms, dynamics, blow-molding machines

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