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Elastic deflection and tilting effect in a multi-stage micro bulk former

Previous studies have described a high performance transfer press for the application in micro forming. This research extends this finding by conducting a two-stage forming process for the machine tool in order to examine the efficiency of the machine in a real multi-stage process. In particular the analysis focuses on quantifying the effect the forming force has on the elastic deflection of the machine and the tools by examining the displacement of the moving plate under loaded and unloaded conditions. The results of the measurements were used to describe the tilting effect due to the off-center loading applied to the upper tool plate.

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