

Design and Performance Optimization of Isostatic Pressing Working Cylinder Automatic Exhaust Valve

Authors : Wei-Zhao, Yannian-Bao, Xing-Fan, Lei-Cao

Abstract : An isostatic pressing working cylinder automatic exhaust valve is designed. The finite element models of valve core and valve body under ultra-high pressure work environment are built to study the influence of interact of valve core and valve body to sealing performance. The contact stresses of metal sealing surface with different sizes are calculated and the automatic exhaust valve is optimized. The result of simulation and experiment shows that the sealing of optimized exhaust valve is more reliable and the service life is greatly improved. The optimized exhaust valve has been used in the warm isostatic pressing equipment.

Keywords : exhaust valve, sealing, ultra-high pressure, isostatic pressing

Conference Title : ICAME 2014 : International Conference on Automotive and Mechanical Engineering

Conference Location : Paris, France

Conference Dates : September 22-23, 2014