

**International Energy Journal, Volume 8, Issue 4, December  
2007**

[HOME](#) | [ABOUT](#) | [LOG IN](#) | [REGISTER](#) | [SEARCH](#) | [CURRENT](#) | [ARCHIVES](#)

[Home](#) > [Volume 8, Issue 4, December 2007](#) > **Ozdamar**

## **An Experimental and Numerical Study on Pressure Drop Coefficient of Ball Valves**

*A. Ozdamar, K. Turgut Gursel, Y. Pekbey, B. Celikag*

### **Abstract**

*In this study, a computational method to predict steady and single-phase flows inside a pipe joined to a ball valve has been examined. Flow computations have been performed using the finite volumes method. To this aim, governing equations for continuity and momentum are first integrated over a control volume, and then the resultant algebraic equations are numerically solved. Results obtained indicate the change of the fluid velocity and pressure fluctuation depending on longitudinal direction inside the pipe. In addition to the computational study, results from the experimental study carried out under the same conditions were obtained to compare with the results of the computational method. Thus, the experimental study does not only confirm sufficient sensitivity of the results obtained from the computational model, but it also indicates a relation between the ball valve opening and the pressure drop coefficient. Thus, the proposed computational model may be used as a tool to design better and efficient installation systems with different ball valves.*

Full Text: Subscribers Only