This paper presents a comparative study of seat-retainers of trunnion ball valves of different manufacturers. The study was conducted aiming optimization of the design methodologies using Finite Element Analysis (FEA) and Multivariate Quadratic Loss Function. The main objective of this article is to identify the main parameters of the geometry of a seat-retainer that ensure quality and functional performance of the corresponding valve. This study could be used as a support for execution on the optimization projects trunnion ball valves in the company in question. The study revealed that, among the seat-retainer models evaluated, the assembly that resulted the lesser loss, considering the results of Multivariate Quadratic Loss Function, is the A model of valve. This valve is closer to the optimal performance of sealing between the seat and the ball, considering the specification limits adopted.

Keywords

quality, loss function, finite element, ball valve Trunnion