Production of Ultra-Low Temperature by the Vapor Compression Refrigeration Cycles with Environment Friendly Working Fluids

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Abstract : We investigate the performance of an integrated cascade (IC) refrigeration system which uses environment friendly zeotropic mixtures. Computational calculation has been carried out by varying pressure level at the evaporator and the condenser of the system. Effects of mass flow rate of the refrigerant on the coefficient of performance (COP) are presented. We show that the integrated cascade system produces ultra-low temperatures in the evaporator by using environment friendly zeotropic mixture.

Keywords : coefficient of performance, environment friendly zeotropic mixture, integrated cascade, ultra low temperature, vapor compression refrigeration cycles
Conference Title : ICCCISE 2016 : International Conference on Computer, Communication and Information Sciences, and Engineering
Conference Location : Jeddah, Saudi Arabia
Conference Dates : January 26-27, 2016