

# THEORETICAL CONSIDERATIONS ON REFRIGERANT CYCLE USING HERMETICAL COMPRESSORS

**Ionel OPREA**

”Dunărea de Jos” University of Galati

## ABSTRACT

*This paper presents some of the key features of refrigerant cycle when using hermetical compressors, compared to the refrigerant cycle when using open compressors. Refrigerant cycle of the hermetical compressors has additional sources of irreversibility due to overheating vapor before the intake and also due to the higher temperature at the end of compression.*

## REFERENCES

1. Motta, S. Y., "Numerical simulation of components of small capacity refrigeration systems", Msc. Thesis, In Portuguese, PUC-Rio, Department of Mechanical Engineering, Brazil, 1995.
2. Suefuji, K. and Nakayama, S., "Practical method for analysis and estimation of reciprocating hermetic compressor performance", *Purdue Compressor Engineering Conference*, 1980.
3. ANSI/AHRI STANDARD 540-2004
4. Meyer, W. A. and Doyle, H., "An Analytical Model of Heat Transfer to the Suction Gas in a Low-Side Hermetic Refrigeration Compressor", *International Compressor Engineering Conference at Purdue*, 1990
5. Todescat, M. L., Ferreira, R. T. S. and Prata, A. T., "Thermal Balance in Reciprocating Compressors, Technical Report UFSC/EMBRACO", 1990.
6. Chong, M. S. and Watson, H. C., "Prediction of Heat and Mass Transfer During Compression in Reciprocating Compressors", *Purdue Compressor Technology Conference*, 1984.