AN IMPROVED METHOD FOR HEAT PUMPS REFRIGERANT CHOICE

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ABSTRACT

This paper summarizes the impact of thermo-physical properties on refrigerant selection for HP: R600, R404a, R407c,R410a, R134a, R507, R134a and R717, which have zero ODP. Impact factors are not sufficient for a complete evaluation, whereas the multicriteria approach allows for an effective initial assessment of the refrigerant. Additional parameters such as efficiency and safety issues will be included in the detailed analysis

REFERENCES

[1]. UNEP. 1998. 1998 Report of the Refrigeration, Air Conditioning and Heat Pumps Technical Options Committee, Nairobi,

[2]. AFF. 2001. Conseil National du Froid – Livre blanc sur les fluides frigorigènes, Paris, AFF, 51 pages.

[3]. UNEP. 2000. Report of the Technology and Economic Assessment Panel April 2000, Nairobi, UNEP, 193 pages

[4]. Harnisch J, Hendriks C. 2001. Economic Evaluation of Emission Reductions of HFCs, PFCs and SF in Europe, Ecofys Energy and Environment.

[5]. Chang, Y.S., Kim, M.S., Ro, S.T., 2000.Performance and heat transfer characteristics of hydrocarbon refrigerants in a heat pump system. International Journal of Refrigeration 23 (3), 232–242.

[6]. Pelletier, O., 1998. Propaneas Refrigerant in Residential Heat Pumps. Licentiate thesis. Royal Institute of Technology, Stockholm, Sweden, ISSN 1102-0245, ISRN KTH/REFR/R-98/24-SE.