



STUDY OF A NOVEL R718 TURBOCOMPRESSION CYCLE

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VDM Verlag Mai 2009, 2009. Taschenbuch. Book Condition: Neu. 220x150x6 mm. Neuware - Even though water (R718) is one of the oldest refrigerants, state of the art technology is required to use water as a refrigerant in compression refrigeration plants with turbo compressors. In regard to using water as a refrigerant, some specific features complicate its application in refrigeration plants with turbo compressors. Because the cycle works at very low pressure, the volumetric cooling capacity of water vapor is very low. Hence, huge volume flows have to be compressed with relatively high pressure ratios. Therefore, the use of water as a refrigerant, compared to classical refrigerants, requires approximately 200 times the volume flow and about twice the pressure ratio for the same applications. To enhance the turbocompression and improve the efficiency of R718 cycles, the novel concept of 3- port condensing wave rotors integrated in R718 compression refrigeration cycles is investigated. The condensing wave rotor employs pressurized water to pressurize, desuperheat, and condense the refrigerant vapor, all in one dynamic process. 108 pp. Englisch.



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