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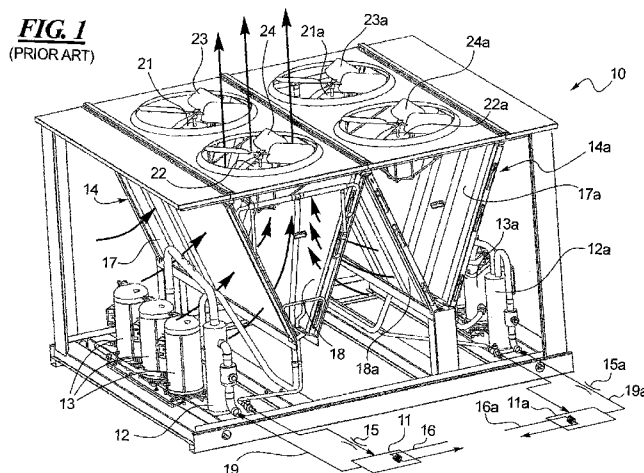
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(54) Title: LOW AMBIENT OPERATING PROCEDURE FOR COOLING SYSTEMS WITH HIGH EFFICIENCY CONDENSERS



(57) Abstract: A multiple refrigerant circuit cooling system includes at least a first refrigerant circuit (11, 13, 14, 15) and a second refrigerant circuit (11a, 13a, 14a, 15a). Each of said first and second refrigerant circuits (11, 13, 14, 15, 11a, 13a, 14a, 15a) including a compressor (113, 113a), a condenser (114, 114a), an expansion device (115, 115a) and an evaporator (111, 111a) connected in refrigerant flow communication. The condensers (114, 114a) of the first and second refrigerant circuits (11, 13, 14, 15, 11a, 13a, 14a, 15a) each including condenser coils having exterior surfaces (117, 118, 117a, 118a) and each condenser (114, 114a) including at least one fan (123, 124, 123a, 124a) for drawing ambient air across the exterior surfaces (117, 118, 117a, 118a) of its respective condenser coil. The exterior surfaces (117, 118) of the condenser coil of the condenser (114) of the first refrigerant circuit (11, 13, 14, 15) being in fluid communication with the fan (123a, 124a) of the condenser (114a) of the second refrigerant circuit (11a, 13a, 14a, 15a) to provide reduced airflow across the exterior surfaces (117, 118) of the condenser coils of the first refrigerant circuit (11, 13, 14, 15) at a low ambient temperature (27).



A. CLASSIFICATION OF SUBJECT MATTER***F25B 39/04(2006.01)i, F25B 6/00(2006.01)i, F25B 49/02(2006.01)i***

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

F25B 39/04; F28D 3/00; F25B 41/00; F25D 17/00; F25B 49/00; F28D 5/00; G05D 23/00; F25B 1/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: compressor, condenser, evaporator, expansion

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2005-0155375 A1 (THEODORE WENSINK et al.) 21 July 2005 See para.15, 16, 19, Fig. 2	1-20
Y	US 2006-0201188 A1 (-) 14 September 2006 See claim 7, Fig. 2	1-20
A	US 2008-0245083 A1 (TUTUNOGLU OZAN et al.) 09 October 2008 See abstract, Fig. 6	16-20
A	US 2004-0016244 A1 (NORMAN E. STREET et al.) 29 January 2004 See abstract, Fig. 4	1-15
A	US 2003-0150226 A1 (TIM ALLAN NYGAARD JENSEN) 14 August 2003 See claims 1, 15, Fig. 2	1-15



Further documents are listed in the continuation of Box C.



See patent family annex.

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