(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
28 October 2004 (28.10.2004)

PCT

(10) International Publication Number
WO 2004/092669 A1

(51) International Patent Classification[7]: F25D 29/00, F25B 49/00

(21) International Application Number: PCT/US2004/009562

(22) International Filing Date: 29 March 2004 (29.03.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10/406,658 3 April 2003 (03.04.2003) US

(71) Applicant: **CARRIER CORPORATION** [US/US]; Carrier Parkway, P.O. Box 4800, Syracuse, NY 13221 (US).

(72) Inventors: **BURCHILL, Jeffrey, John**; 128 Baker Boulevard, Syracuse, NY 13209 (US). **PLETL, John**; 8611 Caughdenoy Road, Clay, NY 13041 (US).

(74) Agent: **GOETTEL, Frederick, A., Jr.**; Carrier Corporation, Intellectual Property Department, Carrier Parkway, P.O. Box 4800, Syracuse, NY 13221 (US).

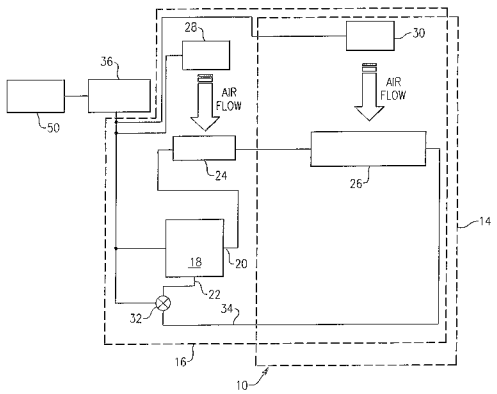
(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report*
— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: TRANSPORT REFRIGERATION SYSTEM



(57) Abstract: A transport refrigeration system, the transport refrigeration system including a container (12) defining an enclosed volume and a refrigeration module (16) coupled to the container. The refrigeration module is disposed to regulate the temperature of the enclosed volume and includes a compressor (18) having a discharge port (20) and a suction port (22), a condenser heat exchanger unit (24) operatively coupled to the discharge port, an evaporator heat exchanger unit (26) operatively coupled to the suction port, a condenser fan (28) disposed proximate to the condenser heat exchanger unit, an evaporator fan (30) disposed proximate to the evaporator heat exchanger unit; and a suction modulation valve (32) coupled to the suction port. The transport refrigeration system further includes a bypass module (36) coupled to the refrigeration module. The bypass module includes: a bypass mode switch having a normal operation position and bypass operation position; and an operational mode switch having a full cool position and fan only position. The transport refrigeration system also includes an electronic controller (50) coupled to the bypass module. When the bypass mode switch is in the normal operation position the electronic controller regulates the operation of the refrigeration module. When the bypass mode switch is in the bypass operation position, the compressor, the condenser fan, the evaporator fan and the suction modulation valve are selectively operated by the position of the operational mode switch.

WO 2004/092669 A1