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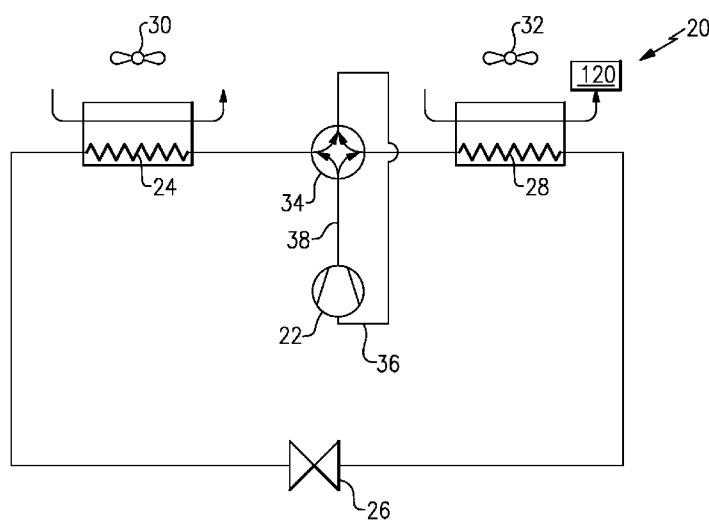
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[Continued on next page]

(54) Title: FOUR-WAY REVERSING VALVE

**FIG. 1**

(57) **Abstract:** A reversing valve includes a valve body including a first port, a second port, a third port and a fourth port. A spool includes a first opening in continuous fluid communication with the first port, a second opening in continuous fluid communication with the second port, a third opening in fluid communication with one of the third port and the fourth port, and a fourth opening in fluid communication with the other of the third port and the fourth port. A first passage is defined between the second opening and the third opening to provide fluid communication between the second port and the one of the third port and the fourth port, and a second passage is defined between the first opening and the fourth opening to provide fluid communication between the first port and the other of the third port and the fourth port. The spool is rotatable about an axis of rotation relative to the valve body between a first position and a second position. The third opening is in fluid communication with the third port and the fourth opening is in fluid communication with the fourth port when the spool is in the first position, and the third opening is in fluid communication with the

fourth port and the fourth opening is in fluid communication with the third port when the spool is in the second position.

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INTERNATIONAL SEARCH REPORT

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PCT/US2009/047143**A. CLASSIFICATION OF SUBJECT MATTER*****F25B 41/04(2006.01)i, F16K 11/085(2006.01)i, F16K 31/54(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 41/04; F16K 31/40; F25B 13/00; F25B 41/00

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: reversing, valve, spool, port, fluid, opening

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 2006-028799 A2 (CARRIER CORPORATION A CORPORATION OF THE STATE OF DELAWARE) 16 March 2006 see paragraph [0014] - paragraph [0018] and figure 1.	1-16
A	US 2005-0086970 A1 (ALEXANDER LIFSON et al.) 28 April 2005 See see paragraph [0011] - paragraph [0014] and figures 1,2.	1-16
A	JP 61-236981 A (SAGINOMIYA SEISAKUSHO INC.) 22 October 1986 See column 3, line 20 - column 4, line 18 and figure 1.	1-16
A	US 4055056 A1 (CHARLES H. PERKINS) 25 October 1977 See column 2, line 21 - column 3, line 31 and figures 1-3.	1-16

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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