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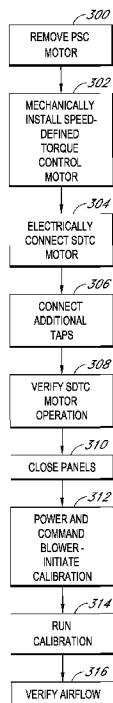
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[Continued on next page]

(54) **Title:** SPEED-DEFINED TORQUE CONTROL

(57) **Abstract:** Motors, such as DC motors, and methods and systems for operating a motor, are described. The motor is optionally an electronically commutated motor. The motor comprises one or more electromagnets and a controller device to control the electromagnets. The controller device is configured to calibrate the motor operation in a desired installation to determine the torque needed to achieve a desired operating speed by causing the motor to ramp up to the desired speed, measuring an electric current needed to operate the motor at the desired speed, and setting a value corresponding to a first speed tap using the measured electric current. The controller device is configured to operate the motor in a substantially constant torque mode using the set value at least after the completion of the calibration operation. The motor may be configured for use in a ventilation system, such as an HVACR system.



**FIG. 3**

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**A. CLASSIFICATION OF SUBJECT MATTER*****H02P 6/08(2006.01)i, F24F 11/02(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)

H02P 6/08; H02P 7/00; F04B 49/06; B66B 1/34; B66B 1/28; G01L 27/00; B66B 1/30; H02P 5/00; F25B 49/00; G01R 31/34

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) &amp; Keywords: calibration, motor, inverter, converter, HVAC

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 7975498 B2 (SHAH, PRASANNA MANHAR et al.) 12 July 2011 See the abstract and figures 2-11.	1-28
A	US 05880416 A (COLBY, ROY STEPHEN et al.) 09 March 1999 See the abstract and figures 1 and 5.	1-28
A	US 6571599 B1 (SURJADI, HARY SOESANTO et al.) 03 June 2003 See figures 2-5.	1-28
A	JP 2005-110344 A (OKUMA CORP.) 21 April 2005 See figures 1-7.	1-28
A	JP 11-018480 A (TOSHIBA CORP.) 22 January 1999 See the abstract.	1-28
A	JP 11-252964 A (OTIS ELEVATOR CO.) 17 September 1999 See figures 1-6.	1-28

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

\* Special categories of cited documents:

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"P" document published prior to the international filing date but later than the priority date claimed

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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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**INTERNATIONAL SEARCH REPORT**

Information on patent family members

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