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Doughty

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(54) **TEMPERATURE COMPENSATION SYSTEM AND METHOD**

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CPC F25D 17/02; F25D 29/00; F25D 27/00; F25B 2309/06; F25B 2341/0681; F25B 1/00; G01M 3/3245
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See application file for complete search history.

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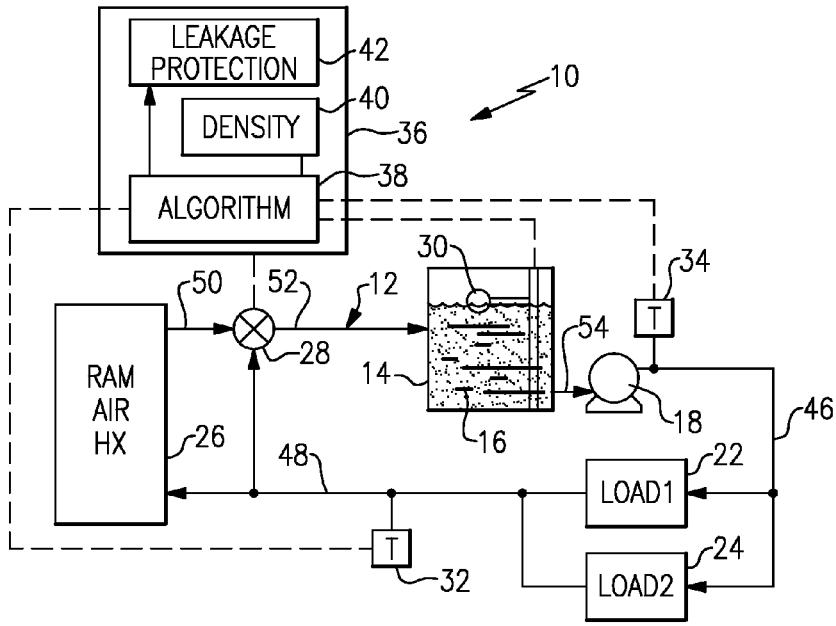
(57) **ABSTRACT**

A cooling system includes a cooling loop that includes a reservoir. The reservoir has a level sensor that is configured to provide a level signal indicative of a coolant level within the reservoir. A temperature sensor is in communication with the cooling loop and is configured to provide a temperature signal. A controller is in communication with the level sensor and the temperature sensor. The controller has a coolant density data. The controller is configured to correct the level signal based upon the temperature signal and detect a leakage condition of the cooling system. A method of determining a coolant amount within a cooling system includes the steps of determining an amount of coolant having a temperature-variable density, determining a coolant temperature, correcting the coolant amount based upon the coolant temperature, and comparing the corrected coolant amount to a desired coolant amount to detect a coolant leakage condition.

20 Claims, 2 Drawing Sheets