

INTEGRATED FAN DRIVE SYSTEM FOR AIR-COOLED HEAT EXCHANGER (ACHE)

Abstract

An integrated fan drive system for air-cooled heat exchangers. The integrated fan drive system has a high-torque, low speed permanent magnet motor having a rotatable shaft, a fan that is directly connected to the rotatable shaft, and a variable frequency drive device in electrical signal communication with the permanent magnet motor to control the rotational speed of the permanent magnet motor. The high-torque, permanent magnet motor comprises no more than two bearings in operative association with the shaft. The variable frequency drive device has a variable frequency controller that has an input for receiving AC power and an output for providing electrical signals that control the operational speed of high-torque, permanent magnet motor. The variable frequency drive device also includes a user interface in electronic data signal communication with the variable frequency controller to allow a user to input motor speed control data.

Figure 7