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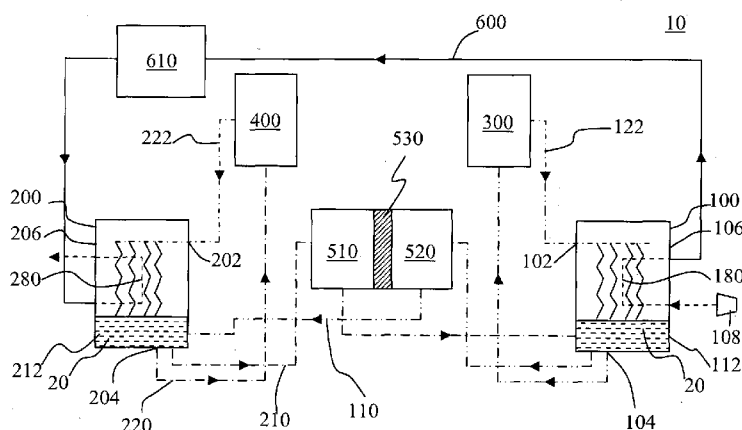
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(54) **Title:** A DEHUMIDIFYING SYSTEM, A METHOD OF DEHUMIDIFYING AND A COOLING SYSTEM



(57) **Abstract:** A dehumidifying system having a dehumidifier containing a desiccant for dehumidifying a process airflow and a regenerator to regenerate the desiccant. In addition, the dehumidifier has a cooler connected to the dehumidifier, the cooler is designed to cool the desiccant such that the desiccant is cooled by the cooler before entering the dehumidifier. In addition, regenerator has a heater connected to the regenerator, the heater is designed to heat the desiccant such that the desiccant is heated by the heater before entering the regenerator. Further, there is a desiccant transfer conduit connected to the dehumidifier and the regenerator and a desiccant supply conduit connected to the dehumidifier and the regenerator such that the desiccant transfer conduit and the desiccant supply conduit forming a desiccant transfer loop through the dehumidifier and the regenerator such that the desiccant loop provides transfer of desiccant from the dehumidifier to the regenerator via the desiccant transfer conduit and supply of desiccant from the regenerator to the dehumidifier via the desiccant supply conduit. Further, there is a concentrated desiccant reservoir for storing the desiccant, the concentrated desiccant reservoir being disposed along the desiccant supply conduit, a diluted desiccant reservoir for storing the desiccant, the diluted desiccant reservoir being disposed along the desiccant transfer conduit. A method of dehumidifying the process airflow using the dehumidifying system and an air cooling system incorporating the dehumidifying system.