

ABSTRACT

A COOLING TOWER FOR AUTOMATICALLY ADJUSTING FLOW RATES OF COOLING WATER AND COOLING AIR WITH VARIATIONS OF A LOAD

A cooling tower for automatically adjusting flow rates of cooling water and cooling air with variations of a load comprises a plurality of thermometers; a hygrometer; at least one controllers; a cooling water pump; and at least one cooling towers connected in parallel. The desired data, such as optimum allowance operating range, heat transferring property of cooling towers, outer gas bulb temperature, approach and relations therebetween are calculated numerically and then are built in the controller. As the cooling tower is operated, by the measuring of the thermometer, messages are transferred to the controller, the practical data and predetermined data are compared in the controller so as to acquire an optimum cooling water flow and cooling air flow. Then, the controllers are used to control the cooling fan in the cooling pump and cooling towers. Thus, an optimum flow rate is acquired. Therefore, the power is saved. The flow rate of the present invention is changed with the load of the ice water mainframe. Only the flow rate of the cooling air is adjusted, but also the flow rate of cooling water is adjusted. The power of the cooling towers is saved greatly.

FIGURE 1