

ABSTRACT

Provided is an operation control system for a cold generation apparatus including: an acquisition means (23) acquiring a wet-bulb temperature of outside air, a refrigeration load ratio, and a cold-water flow ratio; a simulator (24) performing a simulation of an optimum flow ratio, an optimum air flow ratio and an optimum load sharing ratio so as to maximize a coefficient of performance (COP) of the entire cold generation apparatus A by using a cooling-water flow ratio between cooling-water pumps (3, 4) for the respective refrigerators (1, 2), an air flow ratio between cooling-towers (6, 7) fans, and a load sharing ratio between the refrigerators (1, 2) as variables under the conditions of the acquired wet-bulb temperature, the refrigeration load ratio, and the cold-water flow ratio; and a control means (25) controlling cold-water pumps (4, 5) of the refrigerators (1, 2) on the basis of the cold-water flow ratio, controlling temperatures of the cold water at outlets of the refrigerators (1, 2) on the basis of the optimum load sharing ratio calculated by the simulator (24), and controlling the cooling-water pumps (3, 4) and the cooling-tower fans (21a, 21b) for the respective cooling-towers (6, 7) on the basis of the optimum cooling-water flow ratio and the optimum air flow ratio.