

ABSTRACT

Cooling machine type All Water System (water chiller) has been widely used for great buildings such as hotel, department store, etc. The work of this machine is as follows : the primary refrigerant (used in the system of steam compression or cooling substance which is circulated directly through the main components of cooling machine) does not directly refrigerate the air but refrigerates the water as the secondary refrigerant (liquid that is used to carry heat energy which has low temperature from one location to another location). This secondary refrigerant refrigerates the air through FCU or AHU so that the air will be cold. Since the cooling system has many advantages, the "All Water System" is finally designed. In order to design a system of cooling machine, first we need to know the location of the building which is built, the room or space measurement, and equipment which can create heat. This is done to determine the cooling-off capacity which has to be surmounted by the cooling machine that will be designed. After that, we can select the refrigerant which is suitable with the cooling machine. The last, we can plan the components which are used in the cooling machine based on the cooling-off capacity that has to be surmounted and the control system as well.