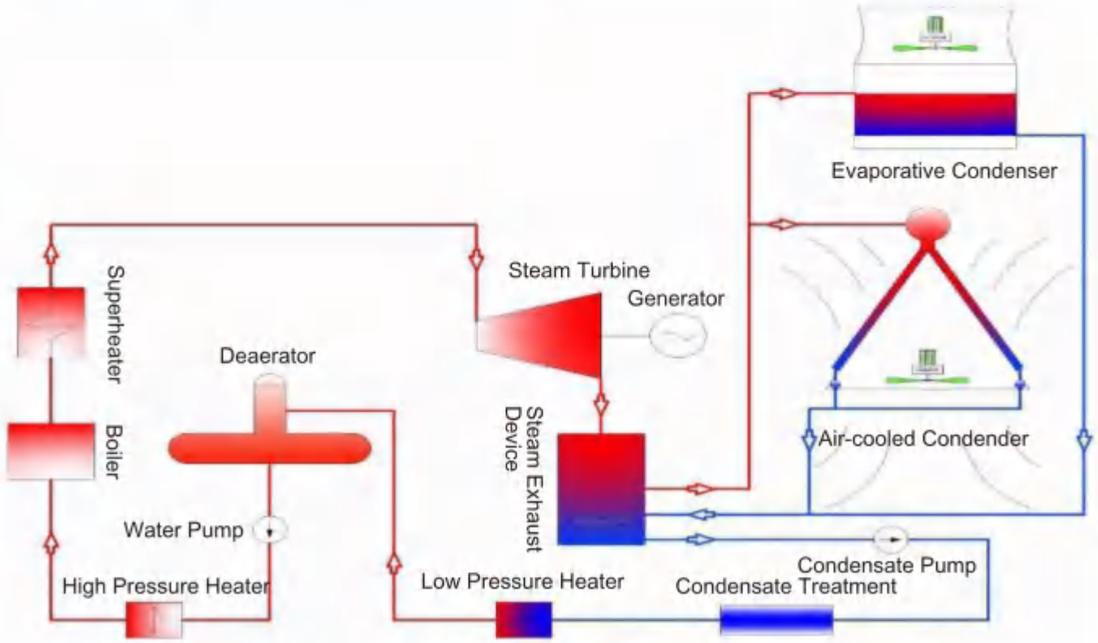
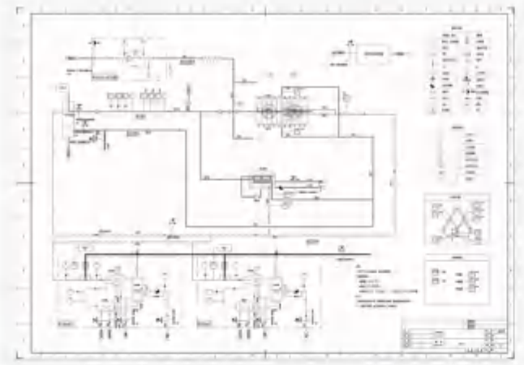
Compound-type Air Cooling Condensation System

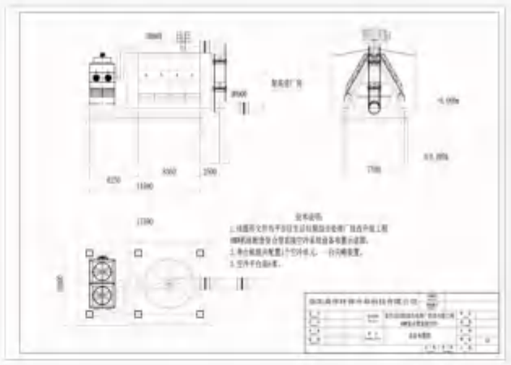
The partial tube bundle in the traditional direct air cooling system is replaced with an evaporative condenser. Mainly air-cooled heat exchangers, supplemented by evaporative condensers, to ensure power generation and operating back pressure in high-temperature environments in summer.

The exhaust steam of the steam turbine enters the air-cooled tube bundle and the evaporative condenser through the main exhaust pipe to condense, and the condensation water is collected in the condensation water tank and is sent through the regenerative system through condenser water pump for cycling. The non-condensable gas is discharged into the atmosphere by the vacuum system. The air cooling system has a condensing back pressure of 35Kpa in summer and an evaporative condensing back pressure of 8-15Kpa. The combination of the two can reduce the back pressure of the direct air cooling system by 5-15Kpa to ensure the power generation of the summer system.

Working Process







System Features

The single-row tube is brazed by a large flat tube rolled by a single-sided aluminum-clad plate and aluminum serpentine fins. The two are closely combined. The root has a large welding foot. The single-row tube controlled cooling tube bundle should have the following characteristics:

1.High heat transfer efficiency

The steam measuring area is large, the pressure loss is low, and it has a high heat transfer efficiency;
Aluminum fins are rolled and raised to increase the heat transfer area;
Enhance the degree of turbulence in the air circulation and enhance the heat exchange effect .

2.Strong corrosion resistance

The base tube and fins are completely covered by aluminum, which has good corrosion resistance after brazing

3.Good antifreeze effect

The section of the base pipe has a large aspect ratio, which reduces the supercooling of condensate and improves the antifreeze performance in winter operation