ABSTRACTION

In the large capacity of cooling unit, using condenser usually with the water as the cooler. It caused the water has a high thermal conductivity beside the economical factor. So that it will be needs an assist from the water circulation that called cooling tower. This is used to cool the hot water that came from the condenser and circulated back to the condenser.

There are two analyze methods in cooling tower thermal conditions, that is mass and heat transfer analyze and the balancing energy (kalor). By doing the two things, we can get the cooling tower characteristic value, that is the basically reference in the parts of cooling tower planning such as louver, ground vesting, packing and drift eliminator. The factors that have a big influence with the cooling tower characteristic value are the inside water temperature \( t_{in} \), the outside water temperature \( t_{out} \), wet bul temperature \( t_{wb} \) and the water volume rate \( L \). The pressure drop counting to the cooling tower parts will determine the power and the fan diameters that will be use and the losses water counting caused of steaming, drift eliminator, blow down will the determine the make up water that will be needs by the tower.

As the basic consideration in this cooling tower analyze planning, so it is choosen the counter flow induced draft cooling tower type, model LBC-5 from PT. Liang Chi Co. Ltd. From the planning result we make the decision that the water supply for the colling towers are 6.33 GPM.