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Project Overview

A steam fired 200 TR vapour absorption machine (VAM) was designed by Thermax to give -2°C chilled brine while using CFC free refrigerant has been able to meet the bottle cooling requirement in a leading beverage manufacturing plant at Pirangut, Pune located in western India. The vac system uses steam energy input of 8 bar pressure. It has replaced the client's old compression chiller where it saved 1240 MW-hr of electricity per annum

Project Description

The process of bottle cooling is an important step in beverage manufacturing process. Solubility of CO_2 in water decreases as temperature increases. So before filling the bottles it is necessary to cool the bottles to contain the CO_2 inside the solution.

Getting -2°C from the existing electrical chiller was having larger running cost. A specially designed 200 TR double effect steam fired vapour absorption chiller was supplied to meet the requirement. It is run by readily available steam from boiler saving the electrical output 235 kW per hour, which saves the operational cost by significant amount as power cost in that area was high and steam cost was low.

Industry: Marine

Project Snapshot

Location: Pirangut, Pune

Total Capacity: 200 TR

Application: Beverage cooling

Heat Source: Steam

Chilled Brine: $1\ 8^{\circ}\text{C}/-2^{\circ}\text{C}$ ($46^{\circ}\text{F}/28^{\circ}\text{F}$)
(In/Out) (30% PG)

Highlights

- The CO_2 emission reduced by 1326 Ton/year which is equivalent to 183 household electricity CO_2 emission
- Almost 90% electrical energy is saved compared to electrical chiller.

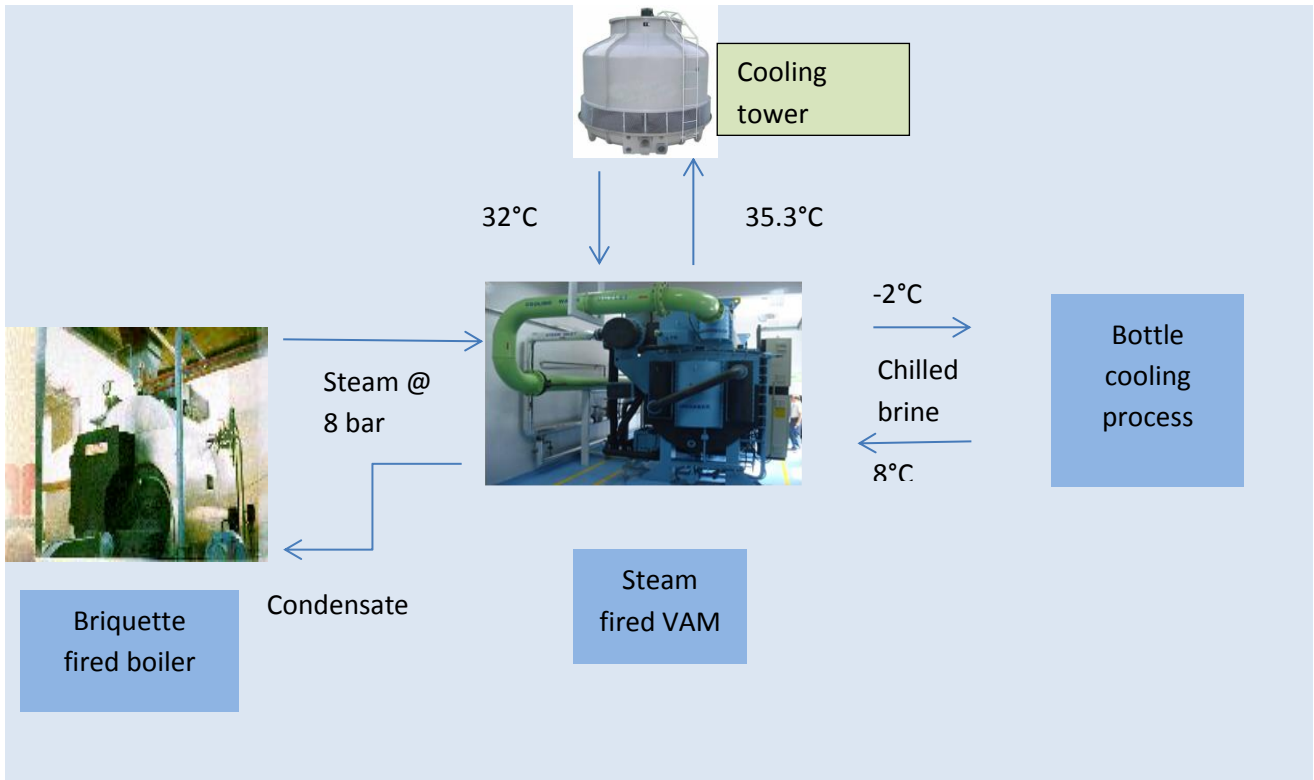


Fig: Schematic diagram