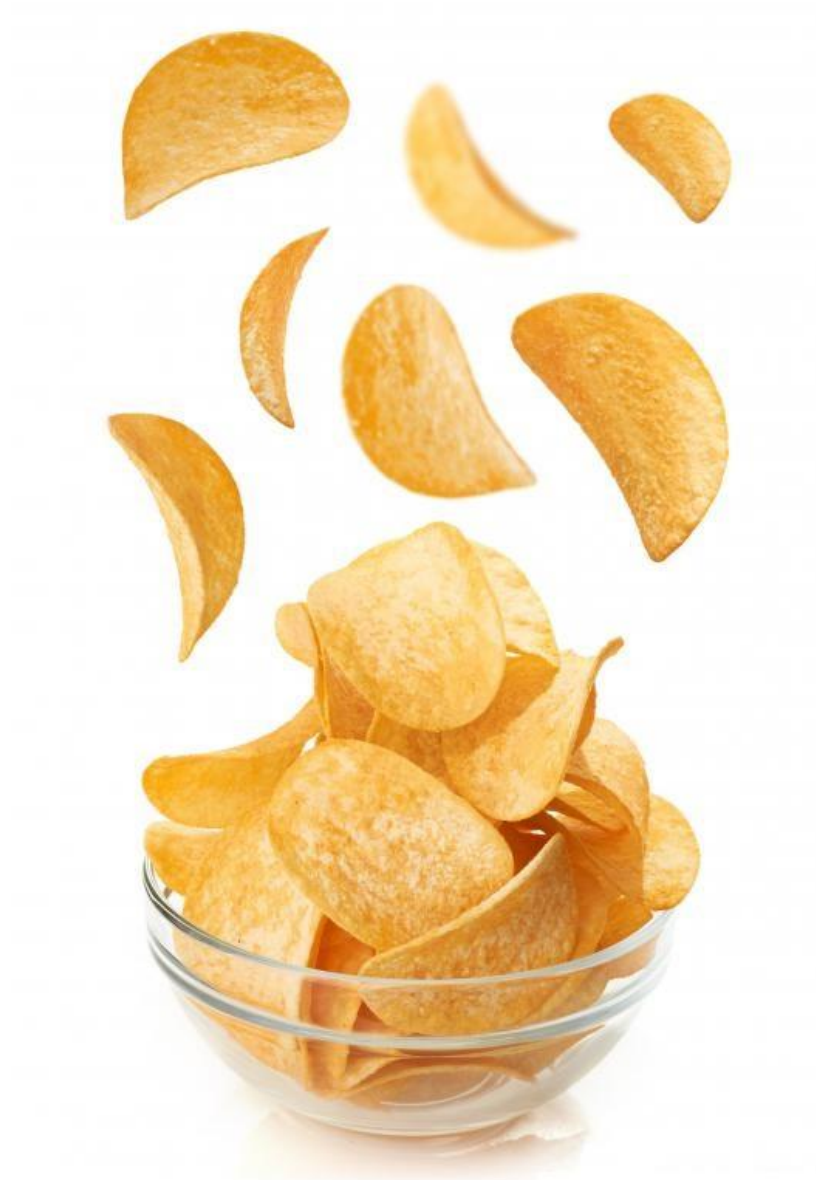


Water from potatoes provides comfort cooling to chips manufacturer



Water from potatoes provides comfort cooling to chips manufacturer

Project Overview

A leading food and beverage company placed an order with Thermax for an absorption chiller for their manufacturing plant in India. The company was involved in the manufacture of potato chips. Potato has 75% water content & upon frying it gets converted into low pressure vapour. Generally this vapour is let off in the atmosphere with the help of an Induced Draft fan inside the chimney. Thermax's 500 TR absorption chiller utilizes this vapour to provide air-conditioning in the production area of the facility which otherwise would have been let off in the atmosphere. The condensate from absorption chiller is utilized for raw potato washing and thus resulting in substantial savings.

Project Description

To help our client achieve its goals of being water positive, improving the efficiency of electricity, reducing fuel use intensity and GHG emission, Thermax supplied its 500 TR vapour absorption chiller for its potato chips manufacturing plant in West Bengal, India. The manufacturing line has a capacity of 6000/hr. The low pressure vapours (0.5 bar) at 100-115 °C produced during the potato frying process will drive this machine. It has been specially designed for 0 bar pressure. The condensate from the absorption chiller which is at 60 °C can again be utilized for the raw potato washing process after a minor temperature reduction which would not have been the case in its absence which results in substantial energy savings. Oil separators are used to prevent the oil from escaping with the vapour. But even after due deliberation the vapour contains 30 ppm of oil. A 2 way pneumatic butterfly valve with modulating actuator placed on the existing chimney will be connected to the vapour absorption machine PLC along with the condensate control valve for modulating the flow of vapour inside the vapour absorption machine. The function of the 2 way valve is to allow the vapour to escape in the atmosphere during part load operations.

Industry: Food and Beverage

Project Snapshot

Location: West Bengal, India

Total Capacity: 500TR or 1750 Kw

Application: Air Conditioning

Heat Source: Vapour

Chilled Water

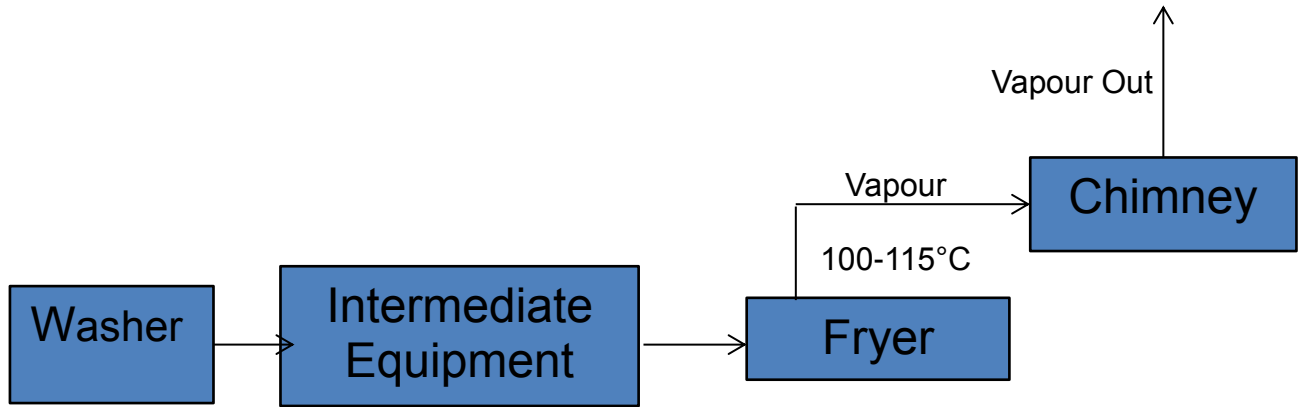
(In/Out) : 12°C(54°F)/7°C(45°F)

Saving in Power Consumption : 2.9 million units per annum

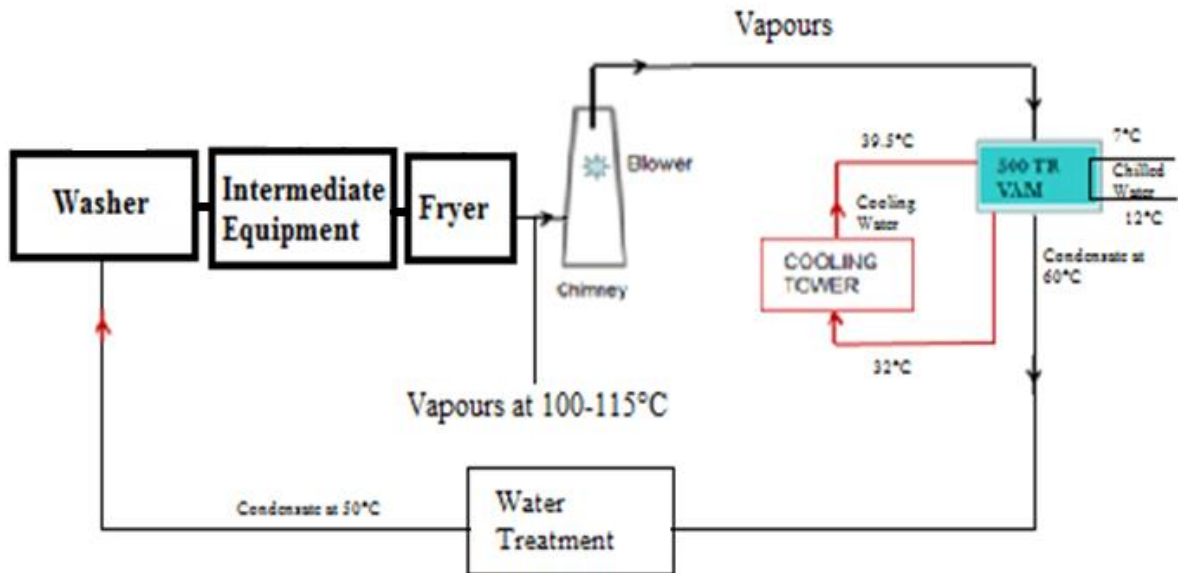
Carbon emission saving: 4000 Tons /annum

Highlights

- The installation of Thermax's vapour absorption chiller resulted in water conservation at the plant.
- There were savings in energy consumption and in operational cost.
- The client was able to save 2.9 million units of electricity per annum which is equivalent to light 3200 homes in a year.
- Saving 400 Tons of carbon dioxide per annum equivalent to taking off 3300 cars in a year



Conventional System



New System