

## Improving efficiency of wort cooling process at a top Indian brewery



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### Project Overview

A chiller heater of capacity 250 TR has been installed at a brewery plant in Chennai to serve the purpose of wort cooling in brewery production process. It also delivers 650 kW of heating in the bottle washer system saving steam consumption by 40%.

### Project Description

Wort cooling in beer manufacturing industry is important as lower temperature of wort helps to dissolve oxygen before adding yeast. Thus the fermentation process is improved.

The chiller heater supplies 4°C water with which the wort exchanges heat and cools down. The extracted heat from this is utilized to generate hot water of 85°C by the same machine. The hot water is used in bottle washing plant where previously hot water heated by purged steam was being used. Thus the overall steam consumption reduced significantly by 40%. The machine runs on steam of 7 bar pressure at feeding at 4 kg/hr saving the electricity consumption 1360 MW-hr per annum. It in turn also saves CO<sub>2</sub> emission by 960 tons per annum.

**Industry:** Food and Beverage

### Project Snapshot

**Location:** Chennai, Tamil Nadu

**Total Capacity:** 250 TR (cooling) +650 kW

**Application:** wort cooling and bottle washer heating

**Heat Source:** Steam

**Chilled Water:** 35°C/4°C (95°F/39°F)

**(In/Out)**

**Hot Water:** 50°C/85°C (122°F/185°F)

**(In/Out)**

### Highlights

- The client was able to save power of about 1360 MW-hr per annum.
- The installation of the chiller heater helped in the reduction of CO<sub>2</sub> emission of about 960 tons per annum which is equivalent to 200 cars' emission per year.
- The brewery plant reduced its steam consumption by 40%

