

## 17.4% fuel reduction through hot water and condensate system improvements for a confectionery plant

 Malaysia

 Food

### Problem

A leading confectionery plant in Selangor, Malaysia was facing several issues with its steam and condensate system. 100% flash steam was being vented. Condensate was partially recovered (70 - 75%) from the hot water system. Stalling and prolonged heating time issues were identified in the Hot Water System. Leaking traps further reduced overall system performance.

### Solution

Forbes Marshall recommended energy conservation solutions to address the issues in the Hot Water System and improve condensate and flash steam recovery.

- We identified that the issue of condensate evacuation from the Hot Water PHE (plate heat exchanger) was due to the existing float trap. We replaced the trap with a steam-operated pump trap (SOPT) to address the issue of stalling and enable complete condensate evacuation from the PHE.
- Leaking process traps were replaced with compact module two-orifice float traps (CMTOFT).
- A FlashJet™ Pump was installed to recover flash steam and condensate.
- A deaerator head was installed on the feedwater tank to enable the proper mixing of condensate, flash steam and makeup water.

*FlashJet™ Pump (FJP) enabling recovery of flash steam and condensate*



## Benefits delivered

	Before	After	Savings per month
<b>Flash steam recovery</b>	0%	90 - 95%	
<b>Condensate recovery</b>	70 - 75%	95%	
<b>Average makeup water to boiler</b>	775 m <sup>3</sup> /month (204K Gallons per month)	383 m <sup>3</sup> /month (101K Gallons per month)	392 m <sup>3</sup> /month (103K Gallons per month)
<b>Average fuel consumption</b>	2080 MMBtu per month	1719 MMBtu per month	361 MMBtu per month

