

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





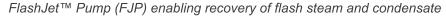
Problem

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.









Benefits delivered			
	Before	After	Savings per month
Flash steam recovery	0%	90 - 95%	
Condensate recovery	70 - 75%	95%	
Average makeup water to boiler	775 m³/month (204K Gallons per month)	383 m³/month (101K Gallons per month)	392 m³/month (103K Gallons per month)
Average fuel consumption	2080 MMBtu per month	1719 MMBtu per month	361 MMBtu per month

