

## 17.4% fuel reduction through steam and condensate system improvements for a MNC confectionery plant





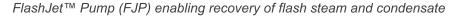
## **Problem**

A leading confectionery MNC 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
Annual monetary savings		MYR 155,520 (~USD 36,827 *converted based on exchange rate)	

