



THERMAL IMPACT GROUP LTD

STEAM SPECIALISTS

This case study was carried out at a:
Malt Whisky Distillery
Located near Stirling, Scotland

Study

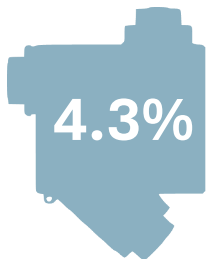
The management of a Distillery located near Stirling decided to perform a CEELOC trial on a liquor plate heat exchanger. The trial focused on comparing the performance of the existing mechanical steam trap with a replacement CEELOC trap. It should be noted that the existing mechanical trap was in operation for approximately 14 months before the trial commenced.

It was found that:

1. The original mechanical trap regularly produced condensate temperatures in excess of 100°C, which is a strong indication of inefficient trap operation and excess energy leaving the process.
2. The maximum condensate temperature with the CEELOC was 83°C, indicating much more sensible heat entering the process fluid

Results

% Savings



Overall reduction in steam usage.

Steam Saving



A reduction in steam usage of 49kg/h.

Yearly Savings



An estimated yearly saving of £8,592.

ROI



A return in investment of less than a year.

Graphs

The monitoring results highlight the difference in condensate discharge behaviour between the mechanical trap and the Ceeloc trap. With the mechanical trap, condensate regularly leaves the liquor PHE at temperatures above 100°C, indicating wasted energy and unstable process control. In contrast, the Ceeloc consistently reduces condensate temperature, demonstrating more efficient heat transfer to the process and improved system performance.

