CASE STUDY

# Hospital Laundry

Laundry | United Kingdom | GEM Steam Traps

## Overview

Dedicated to taking an active role in reducing its carbon emissions as well as saving costs, this customer has reduced its CO2 emissions by 12.5% following the installation of Thermal Energy International's GEM venturi orifice steam traps. In addition, the laundry has reduced its energy consumption by 12% and its water usage by a substantial 30%.

## Impact

- Eliminated cost of replacing failed traps
- Short pay back
- 12% overall reduction in fuel usage
- 30% decrease in water usage
- 12.5% reduction in CO2 emissions
- Significantly lowered condensate temperature
- Improved volume of condensate return

GEM STEAM TRAPS

- GEM™ steam traps are the most efficient and reliable steam traps on the market
- A permanent, low maintenance steam trapping solution With no moving parts to break or fail
- Implementation of the technology typically reduces steam costs by 10% to 20%
- Average payback ranges from one to two years

## Solution

Prior to the installation of the GEM steam traps, this customer found that 10 of its 62 steam traps were failing each year, necessitating their replacement at a cost of £3,500. Additional costs for labour to maintain and replace the traps amounted to a further £5,000 per annum.

A site survey carried out by Thermal Energy International found that 9% of the steam traps had failed open allowing large amounts of expensive steam to be wasted, 4% had failed closed which was causing the condensate to back-up and create wet steam, corrosion problems and water hammer, and a further 2% had failed partially closed allowing smaller amounts of steam to escape. From these findings, Thermal Energy International was able to calculate that by replacing the mechanical traps with the GEM venturi design, the customer would be able to save £26,617 in energy and maintenance per annum alone, providing a short-term payback.

Although the laundry primarily worked with nursing homes, it later began undertaking work for commercial organisations. This meant that its throughput of around 80,000 pieces a week had increased to 120,000. These increases will result in the laundry making even greater energy and water savings and in achieving an even faster payback on the cost of the GEM steam traps.

The customer's Energy and Contracts Manager then tracked the results to ascertain the savings in energy and water and the reduction in CO2 emissions.

"The savings are impressive. At today's gas prices we are saving around £24,000 a year based on a throughput of 80,000 pieces per week. I anticipate energy savings will increase from 12% to 18% by the year-end when everything settles down. Our water savings are due to the removal of an inefficient condensate return pump and the fact that we no longer have condensate losses from blown steam traps" said the customer's Energy and Contracts Manager.

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