

Maxiflo ejector traps save at Boskor

All mechanical steam traps at Boskor Sawmill were changed to Maxiflo as a permanent solution to steam trap problems.

Boskor Sawmill is an iconic landmark, situated in the Tsitsikamma forest, in the Eastern Cape. What makes this sawmill unique is their co-generation plant, which uses waste wood chips to generate electricity. This has been the source of power to the region for the best part of 60 years.



Boskor's primary use of steam however, is for wood drying. The sawmill is equipped with eight compartment kilns which have a total of 193 steam traps. Maintenance planner Flam Finaughty explained that maintaining this number of ball float traps was costly and time consuming. Added to the normal maintenance of the traps, they also had to replace the thermostatic elements, which are fitted internally to vent air.

Maxiflo ejector traps were presented to Boskor personnel in November 2007. What impressed them the most was the simplicity of the product. It has no moving parts and requires no maintenance except for a periodic cleaning of the integral strainer. This is made easy because Maxiflo is supplied with a blowdown valve, for on-line cleaning.

As explained by regional manager, Danie Nell, Maxiflo is an exclusive development of Industrial Steam Products and has been on the market in South Africa since 1990. It works by harnessing the kinetic energy of steam to eject condensate from the steam coils, faster than any other type of trap. This improves the thermal efficiency of steam equipment which results in lower steam usage.

An additional savings says Nell, is also due to the fact that Maxiflo ejector traps can't fail open like mechanical traps and blow large uncontrolled amounts of steam away. Owing to Maxiflo's proprietary ejector technology, the units are able to remove maximum condensate loads formed during the process, while only losing a small amount of steam under lighter load conditions. This steam loss is comparable to that of conventional traps, in working order.

Boskor selected a Bollmann compartment kiln to test the Maxiflo ejector traps for themselves. All 18 float traps on the main heating coils, booster coils and steam baths were changed over. Traps on the supply manifold and separator were also included. The installation was simple because of the Maxiflo's compact design which enabled prefabrication of flanges to the same dimensions as the original traps. On-site pipe work was therefore minimal.

The kiln was tested under normal operating conditions over a 3 month period, with favourable results. According to operating personnel, the starting up times of the kiln were shorter than before and process temperature profiles were more consistent. They also reported a sharp reduction in steam blowing from the condensate vent.

The successful test was followed soon after by the total conversion of Boskor Sawmill, to the Maxiflo ejector system. The proposal made by Industrial Steam Products included the installation and fabrication of the Maxiflo, which was executed in such a way as to minimise any disruption to production.

Results of the total conversion were staggering, especially since all the previous traps had been constantly maintained and were in working order. According to production manager, Jaco Oosthuizen, batch drying times were shortened by 7% on all the Bollmann kilns and 10% on the New Moore's. Temperature profiles on all kilns had improved and were more consistent than before. The overall steam consumption in the sawmill had also reduced by about 15%, since the Maxiflo conversion.

Finaughty concluded that Maxiflo ejector traps had really lived up to their expectations. In the two years since the initial installation, there have been absolutely no steam trap problems or any maintenance required. Compared to the fortnightly maintenance before on the mechanical traps, this is a huge benefit.

What also amazed Finaughty, was that there was no deterioration of the Maxiflo. The kilns were still operating as well as they were since day one and the steam consumption had remained consistent.



Bollman kilns at Boskor