

Cost Reduction through Maintenance of Compressed Air System in Pulp & Paper Industry

Tyagi C.H., Dharm Dutt and Sharma Munesh Kumar

ABSTRACT

The pulp and paper industry is an energy-intensive process industry where energy contributes about 16-20% of the total manufacturing cost. Due to shortage in energy availability and increase in energy cost, energy conservation has become a necessity in the paper industry. Consequently, any process that significantly decreases the energy requirement in the pulp and paper process will have a significant beneficial effect on the overall energy input. It was observed that a significant saving can be done if the losses of compressed air due to leakage are limited to 5% of the total capacity of air compressor through maintenance. It is found that losses due to leakage in lubricating air compressors in Star Paper Mills Limited, Saharanpur (India) were 28.18% when zero load tests were conducted. Due to which, a financial loss was assessed to approximately Rs744245.44. The present study aims at maintenance practices of air compressors in pulp and paper industry in order to minimize air leakage to 10.5% by taking various measures. The maintenance practices of air compressors adopted to minimize air leakage are proved to minimize a financial loss of Rs. 464490.88per annum.

Key words: Air compressor, load test, zero load tests, air leakage, cost saving