

Clean Sweep!

Air system study yields multiple benefits to bottom line

PROBLEM: An aerospace parts manufacturer was experiencing high maintenance costs as well as excessive downtime with their compressed air system. Their modulation control compressor caused unnecessary energy usage on the weekends and off peak times, resulting in exceptionally high energy costs. Additionally, problems with air quality led to product rejects and costly scrap rates.

SOLUTION: A comprehensive Air Demand Analysis was conducted to understand the plant's fluctuating demand. It revealed that the 200 hp modulating control compressor was grossly oversized. With proper controls and additional storage, two 50 hp compressors could efficiently handle the demand and save 871,500 kWh per year. A third 50 hp unit was added to ensure uptime and accommodate growth.

RESULT: These sweeping changes created immediate and sustainable energy savings. The combination of more storage, more efficient compressors and master controls drove system specific power consumption down 77%—and that doesn't include the savings from leak reduction. As a direct result of the new air treatment equipment, the plant also saw improved product quality and reduced maintenance on the expensive production equipment that may surpass energy in terms of bottom line benefits.



Specific Power of Previous System:	93.89 kW/100 cfm
Specific Power of New System:	21.14kW/100 cfm
Annual Energy Costs of Previous System:	\$107,431/year
Annual Energy Cost Savings:	\$87,151/year
Savings Due to Fixing Leaks:	\$12,500/year
Utility Rebate:	\$92,000
TOTAL FIRST YEAR SAVINGS:	\$191,651



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