

EXPECTATIONS EXCEEDED:

SCALES INDUSTRIAL TECHNOLOGIES HELPS ELECTROPLATER IMPROVE PRODUCTION AND SAVE ENERGY



Faced with rising energy costs, Summit Corporation of America sought to improve the efficiency and reliability of its compressed air system. After getting a quote from their vendor on a new 300-hp compressor to replace an existing unit, the company sought a comparison quote due to the significant investment the new compressor represented. Based on a recommendation from one of their customers, Summit turned to Scales Industrial Technologies. Rather than simply providing a quote for a new compressor, Scales recommended a compressed air system assessment. This impressed Summit's president, Harry Scoble, who gave Scales the green light to assess the system. Scales' engineers found that by modifying some production equipment, Summit could reduce its compressed air demand by 80%. This would allow the company to operate just as effectively with a much smaller compressor and achieve significant energy and maintenance savings.

Project

- Replaced 300-hp centrifugal unit with 75-hp rotary screw compressor
- Added 5-hp reciprocating compressor package with compressed air storage
- Added 75-hp compressor for back-up
- Converted compressed air-driven strip washing nozzles to water-driven nozzles
- Identified and repaired leaks
- Costs after utility rebate: \$72,500

Benefits

- Annual energy savings of \$153,000 and 1,631,000 kWh
- Production benefits of \$50,000 annually
- Other annual savings of \$49,000
- Simple payback of less than 4 months



Summit President Harry Scoble on Scales Industrial Technologies – “They recommended a system assessment rather than just providing a quote for a new compressor...that got my attention!”

Summit Corporation

Founded in 1948, Summit Corporation of America is one of the largest independent electroplaters in the United States for continuous reel-to-reel and rack and barrel processes. Located in Thomaston, Connecticut, Summit has almost 100 employees and a customer base of over 500 companies within the automotive, commercial, aerospace, and electronics markets.

The Project

The primary demand for compressed air in Summit's plant was from a series of compressed air-driven nozzles that atomized water to rinse away chemicals used during the plating process. Working with a nozzle manufacturer, Scales designed a process change that enabled the strip washing nozzles to use only water instead of compressed air. Eliminating the air-driven strip washing sharply reduced the plant's compressed air requirements.

The assessment also found that a filter press was being fed an unneeded, constant supply of compressed air. Scales'



engineers worked with Summit employees to install high pressure off-line air storage supplied by a 5-hp reciprocating compressor to accommodate the high volume, intermittent demand of the filter press. This further reduced the load on the main compressor. Finally, a leak detection and repair campaign led to additional compressed air energy savings. The combination of all these measures reduced the plant's air demand to where it could be met with a smaller compressor. Summit was able to replace their 300-hp compressor with a 75-hp variable displacement compressor and a new, energy efficient dryer.

New Strip Washing Nozzles

Results

Not only did Scales' recommended project improve energy efficiency and yield significant energy savings, it also improved production and yielded important non-energy benefits. Compressed air energy use was reduced by more than 80%, saving 1,631,000 kWh and \$153,000 per year. The project also resulted in annual savings of \$49,000 from lower water and water treatment costs, lower cooling tower loads, and lower maintenance costs. In addition, production became more reliable, leading to \$50,000 in annual avoided product loss. Because Summit qualified for an incentive of \$217,500 from its electric utility, Connecticut Light & Power, total implementation costs were \$72,500, resulting in a simple payback of just over 4 months. This project's success has encouraged Summit to become more proactive about energy efficiency. Currently, Summit and Scales are optimizing the efficiency of multiple blower systems.

"Scales worked with our operators to retrofit our rinse lines utilizing state-of-the-art technology. Involving our operators in this retrofit process was the key to gaining their commitment and enthusiasm. In addition to the anticipated energy savings, we are enjoying a higher quality surface finish along with enhanced process consistency and capability."

Ron Gross, VP Engineering
Summit Corporation of America

Founded in 1966, Scales Industrial Technologies is a leader in compressed air system design, helping commercial and industrial customers improve energy efficiency throughout the U.S. and internationally. Their expertise encompasses a full range of commercial air products including air treatment, cooling, process chilling, and more. Scales Industrial Technologies offers state-of-the-art compressed air system analysis, evaluation and engineering design and production solutions. Scales Industrial Technologies is also a longstanding U.S. Department of Energy (DOE) Allied Partner and a founding member of the Compressed Air Challenge (CAC). The company's president and founder, Bill Scales, co-authored the CAC's Best Practices Manual for Compressed Air Systems and is on the CAC's Core Technical Committee. In addition, five Scales employees are CAC certified instructors.

For more information on how Scales Industrial Technologies can help your company save energy and money, visit our website at: www.scalesindtech.com, email at info@scalesair.com, or call:

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