



Case Study



Compressed Air is Not Free

Are you paying for 60 minutes of air but only getting 15?



Customer Challenge

A manufacturing facility in South Alabama was incurring major energy costs due to leaks in its compressed air lines, not its fluid process systems. These air leaks forced compressors to cycle on and off far more frequently than intended, driving up electricity usage and accelerating equipment wear. Without a structured compressed air leak detection program, the facility experienced decreased system efficiency, premature compressor failure, and increased exposure to costly rentals, replacements, and unplanned downtime.



Swagelok's Solution

Swagelok® Evaluation and Advisory specialists conducted a targeted audit of the facility's compressed air system and uncovered numerous leaks in the air lines, many of which had been overlooked by routine plant maintenance. These leaks, while small and common in industrial settings, were silently driving up energy costs. **Phase I of the audit focused on just a limited section of the plant's compressed air lines**, yet even in this small area, the projected annual savings totaled nearly **\$63,000** through reclaimed compressed air, improved energy efficiency, and reduced strain on maintenance, repair, and operations (MRO) resources. This indicates a much larger savings opportunity as additional areas of the plant are evaluated.

To learn how Swagelok Evaluation and Advisory Services can benefit your facility, complete our [Service Request Form](#) or contact us directly to consult with an expert.

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Impact on Energy Consumption

Frequent compressor cycling is a red flag; not for process leaks, but for compressed air line leaks, which are often overlooked. Unlike visible fluid leaks, compressed air leaks are sneaky and silent, yet extremely costly. Many operators focus on process system integrity while missing the hidden drain on energy from leaking air lines.

Swagelok's fluid system professionals identified significant energy loss stemming directly from these compressed air leaks, revealing just how expensive this invisible issue can be.

Energy Usage:	428,577 kWh
Cost of Electricity:	\$0.11 per kWh
Annual Energy Cost:	\$47,143

Leak Survey Findings

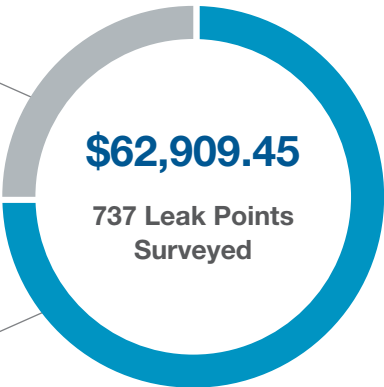
Leaks are expensive. Leverage Swagelok's expertise to get to the source of the problem, every time.

Bulk Gas

Leak Cost: \$15,765.90
Number of Leaks: 68
Avg. Leak Rate 1.9 CFM

Compressed Air

Leak Cost \$47,143.55
Number of Leaks: 127
Avg. Leak Rate: 2.0 CFM



Ancillary Expenses to Consider

The cost of renting just one air compressor could add almost \$150,000 to your operating expenses.

	Avg Cost per Unit	Your Cost
Compressor Rental	\$57 per hour	
Installation & Maintenance*	\$4 per hour	
Diesel Fuel (\$3.51/gal)	3 gallons per hour	
Total Annual Cost**	\$148,782	

*Oil and filter changes every 150-200 hours of operation
**2,080 working hours per year



Air isn't free. Your compressor's duty cycle could be silently draining your budget.

Our Fluid System Professionals Provide:

- Source and Cost of Leaks**
quantified through the use of specialized equipment and industry-standard calculations.
- A Detailed Report**
including leak location and size allowing personnel to set a maintenance schedule.
- A Prioritized List of Recommendations**
that help you eliminate leakage and conserve valuable resources.

- A final report will be provided within 4 weeks of service conclusion. Upon delivery, we will:**
- Schedule a joint review meeting to ensure survey objectives were met
 - Discuss key findings and safety concerns, outlining corrective actions and next steps including follow-up survey to confirm repairs
 - Provide ongoing support as required through commissioning and start-up assistance

This data represents an actual report, however, total savings will vary based on number of leaks, size of leaks, orifice size, cost of electricity, operating hours and other factors.

The data displayed here does not take into account maintenance costs as a part of total savings.

