ENVIRO – STEWARDS

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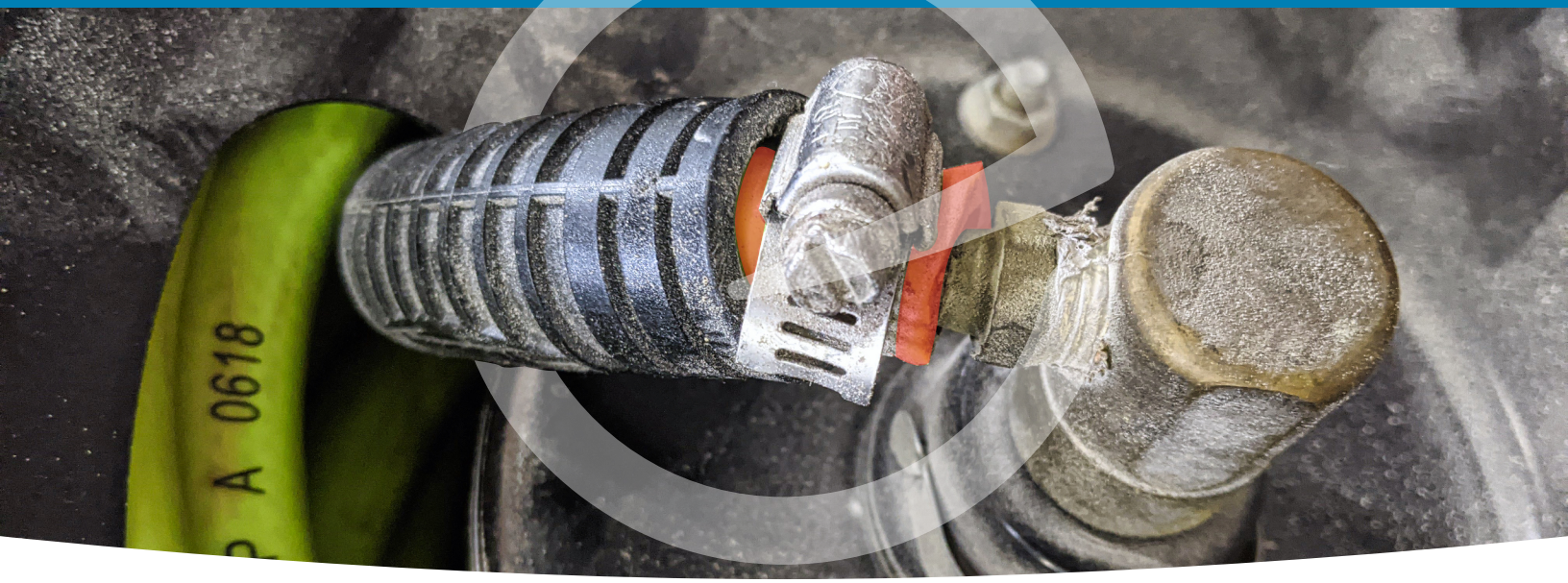
Case Study

Compressed Air Leak Audit



Compressed Air Leak Audit Saves $12,000/year,

Representing a 27% Reduction in Air Compressor Energy Use

The Challenge

Production processes need a reliable and timely supply of compressed air to provide sufficient volume and pressure to end-users. However, compressed air is extremely expensive to make: up to 88% of the electrical energy used to compress air is lost to heat.

Therefore, unneeded compressed air uses and losses through faulty quick-connect junctions, damaged air tools, failed valves, broken pneumatics, cracked supply lines, etc., can waste thousands of dollars per year in electrical energy use.

The Solution

Amperage logging of a compressed air system during an energy, water, and product conservation assessment at a manufacturing facility identified unaccounted-for energy use during non-production hours (weekends). Based on this data, a subsequent Compressed Air Leak Audit located and estimated the energy loss at 25 significant leak locations. These locations, accompanied by precise photos, were then identified in an action plan for the facility's maintenance team to repair the leaks.

The repaired leaks represent **$12,000** per year in energy savings (representing a **27%** reduction in the air compressor's energy use).

Findings

Amperage metering of the air compressor indicated that the system was cycling on/off over the weekend when there was no production (Figure 1). The Compressed Air Audit identified leak locations for repair (Figure 2) and their estimated energy loss.

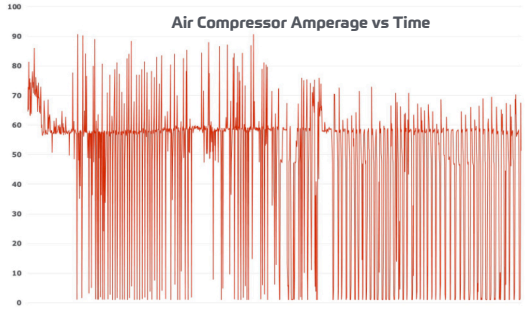


Figure 1: Amp logging indicated unneeded compressor activity over the weekend

Item #	Name
1	Air discharge from air filter drain
2	Leak between hose & quick connect
3	Leak between red hose and quick connect
4	Hole in hose
5	Damaged splitter
6	Hole in clear hose
7	Leak between light green hose and C/A supply
8	Leak from quick connect
9	Hole in green hose
10	Leak between splitter to green hose
11	crack in thread on regulator
12	Leak from splitter
13	Cheese blower excess run time
14	Leak from connectors
15	Leak from connector

Figure 2: The action plan identifies the leak locations for repair

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