

# AIR AUDIT

## WHY YOUR FACILITY SHOULD GET AN AIR AUDIT



### Reduce Energy Waste

Up to 50% of all compressed air energy is wasted, often due to leaks, poor controls, or system design issues.

Leaks alone commonly account for 25-30% of total air usage.



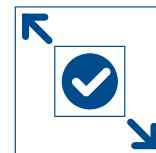
### Improve System Reliability

The DOE notes that compressed air systems are often the least efficient electrical load in a facility, and unresolved inefficiencies hurt compressor life, air quality, and uptime.



### Lower Operating Costs

A properly optimized system can reduce energy consumption by thousands or even hundreds of thousands of dollars annually depending on plant size and usage.



### Ensure Correct System Sizing

Incorrectly sized compressors, dryers, or piping can create pressure drops, artificial demand, and unnecessary compressor runtime. These issues can all be identified during an audit.

## What You Gain From an Audit

### • Lower Energy Bills

Most facilities achieve 15-50% energy savings through leak repair, improved controls, and system optimization.

### • Improved Production Quality

Stable air pressure improves tool performance, reduces scrap and rework, and helps eliminate issues caused by insufficient air supply, poor piping design, and inadequate storage capacity.

### • Increased Equipment Life

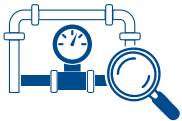
Maximize system reliability while extending compressor life.

### • Actionable Data & Reporting

Receive a comprehensive report with detailed graphs and demand profiles.

Know exactly how much compressed air you need today and for the FUTURE, allowing us to design the most efficient system for your operation.

# WHAT'S INCLUDED IN A COMPRESSED AIR AUDIT



## On-Site System Survey

We examine all equipment: controls, storage, dryers, filtration, and piping. This ensures measurement devices are placed correctly and system dynamics are fully understood.



## Verification of Results

After system improvements have been implemented, we can re-measure performance to verify actual energy savings and ensure long-term system stability. Real-world audits have documented up to 42% annual savings.



## Measurement & Data Logging

We collect real-time data over 7-14 days, including:

- Power (kW)
- Flow (CFM)
- Pressure profiles
- Load/unload VFD/VCC behavior
- Off-shift and weekend demand

These measurements identify non-productive air use and system instability.



## System Dynamics Analysis

We evaluate: control modes (modulation, load/unload, VFD), pressure drops, storage efficiency, demand fluctuations, and compressor room interactions. This step uncovers root causes of waste.



## Recommendations & Optimization

We provide actionable improvement strategies based on DOE and Compressed Air Challenge (CAC) best practices, including:

- Leak Rate as a % of total flow,
- Pressure optimization to reduce artificial demand,
- Control system improvements,
- Proper storage sizing,
- Piping layout improvements,
- Eliminating inappropriate uses of compressed air.

For every 2 psig you can lower your pressure you save 1% in energy consumption.

| Size    | Flow Rate (cfm) | Cost per Year |
|---------|-----------------|---------------|
| ● 1/16" | 6.5             | \$1,046       |
| ● 1/8"  | 26              | \$4,190       |
| ● 1/4"  | 104             | \$16,784      |

At 120 psig the air leak rate increases by 15%

Costs calculated using electricity rate of \$0.10 per kilowatt-hour, assuming 8,760 hours of operation, a perfect orifice at 100 psi, and an efficient compressor.

| HP  | Rate     | Cost per Year |
|-----|----------|---------------|
| 50  | 18c/kwhr | \$68,000      |
| 100 | 18c/kwhr | \$136,000     |
| 200 | 18c/kwhr | \$272,000     |
| 300 | 18c/kwhr | \$408,000     |

**877 NEED AIR**  
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