

Benefits of a Vacuum System Audit

While energy consumption is important to most end users, it is not always their primary reason to engage in a vacuum audit. Many audits on vacuum systems are undertaken to solve other problems besides energy consumption.

Top Five Reasons for Vacuum Audits:

- ▶ Solve delivery issues to production machinery
- ▶ Reduce energy consumption
- ▶ Solve contamination issues
- ▶ Solve pump failure / mechanical issues
- ▶ New system design

Systems Approach

The auditing process evaluates an entire vacuum system as opposed to evaluating only supply pumps. A system analysis eliminates guesswork when configuring vacuum pump supply and encourages measurement of every component in the system. The process is completely solutions oriented and everything that can be measured is measured. The audit process is designed for client participation from beginning to end, and each client is updated daily during the course of the audit. There is an in-briefing meeting at the start of the audit with production, management, financial and maintenance managers. An out-briefing meeting is held on the last day of the audit to discuss results and provide opportunities for discussion and feedback. The Action Plan is finalized during the out-briefing meeting.

Supply, Distribution and Demand Analysis

Three key types of vacuum systems should be evaluated on every audit.

Supply vacuum pumps are evaluated on:

- Capacity
- Power consumption
- Maintenance condition
- Environmental factors

Distribution systems are evaluated for:

- Overall configuration
- Pressure differential
- Materials of construction
- Capability to deliver supply vacuum as needed

Demand applications are evaluated against:

- Ideal operating speeds
- Problematic vacuum supply issues
- Internal pressure differentials
- Methods to avoid system contamination

Typical Industries:

- Beverage
- Chemical/Paints/Adhesives
- Food
- Medical/ Health Services
- Oil/Gas
- Packaging
- Pharmaceutical
- Plastics/Rubber/Composites
- Power Generation
- Printing
- Pulp/Paper/Converting

Deliverables: Engineered Results, Energy and Financials, and Action Plan

At the conclusion of a vacuum audit, problematic applications have been assessed and recommendations have been made to correct issues. The benefits are higher production throughput and optimized energy input.

A complete energy and financial analysis is presented in a format to the client's management team to justify the implementation of the project. The financial analysis is complete with an ROI for the project. The Action Plan provides a list of necessary equipment along with recommended vendors and pricing for equipment, installation and shipping. Along with many other benefits, these deliverables comprise the primary value that a client derives from the process.

Measurement and Verification of Results

At the conclusion of the implementation phase, every client has the opportunity to measure the predicted results against the actual results for power consumption, vacuum delivery and system performance.



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You'll get the most productive efficiency from your systems after the audit recommendations are implemented:

- Highest vacuum output for the lowest energy input
- Energy consumption is reduced, saving money
- System reliability is nearly always increased
- Vacuum pump contamination issues are resolved
- Maintenance costs are generally reduced
- You will receive a full financial analysis
- All results are measured, supported and based on a solid technical analysis
- Increased production throughput by eliminating downtime and increasing the strength of vacuum supply
- Many clients note scrap reductions after implementing the audit Action Plan
- Your questions are answered regarding chronic production or supply issues

Audit Options

Fully Engineered Vacuum System Audit:

Full system audits cover supply, distribution and demand with a detailed report and supporting documentation for each audit. All the required data loggers, instrumentation and accessory equipment needed to do any audit are included. Fully engineered vacuum audits are comprehensive multi-day evaluations that detail existing conditions and provide proposed configurations to optimize vacuum delivery and energy input. The final report provides project specifics and equipment recommendations. Pricing is set up as a per day, on-site charge plus expenses and a per day office/engineering charge.

These Audits range from 3-5 days on site, depending on size and scope of the project, and 1-2 days off-site.

Note: The fully engineered audit report work will typically be completed within 2-3 weeks of the onsite work.

One Day On-Site Vacuum System Audit:

This service is designed to provide an on-site auditor at a client's facility for a one or two day evaluation. At the end of the evaluation, the client and local Dekker representative receive a summary report that outlines existing system issues and general recommendations to solve system issues or save energy. Pricing is set up to include expenses so that the customer can precisely budget for the evaluation. The cost of this audit will be determined based on location and time required on site.

Note: One Day, On-Site audit summary reports are completed the day of the audit.

Off-Site Evaluation:

This service provides the sales personnel with a tool to evaluate a site vacuum system from an off-site location. Data loggers are set up to record vacuum level and amp draw and then are sent to the sales or service person. The sales/service person installs the loggers and allows them to record for several days. Once enough time has passed to gather sufficient data, the loggers are removed from the system and are sent back to Dekker for review. A summary report is generated detailing existing conditions and recommendations for system upgrades.

This is a good tool to use to solve specific vacuum system problems at client locations.

Note: Audit summary reports are completed within 7 days of data logger return.

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Maintenance, service and repair so you keep operating at maximum efficiency.



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