



PNEUMATIC SYSTEMS ENGINEERING

Experience and Innovation Working for You

1658 Malvern Ave.
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Cary, NC 27511
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Professional Memberships



The Mid-South Engineering Pneumatics Team can supply design and specification of industrial fume and dust control systems. These services include:

Ventilation Design:

- Review of operational processes and ventilation needs, to determine plant requirements and meet environmental guidelines.
- Custom hood design to meet operational needs, with focus on efficient and economical sizing of exhaust volumes to control air contaminants.
- Ventilation system design calculations, including static pressure losses and requirements, duct sizing for appropriate velocities, and requisite fan horsepower per industry standards as set forth in the ACGIH Industrial Ventilation Manual.
- Optimized system design for system performance and ease and cost of installation, with engineering review capabilities of industrial contractor installation methodologies.
- Project specifications to meet pollutant filtration needs, including construction materials specification, fan selection and pollution control device selection optimized for specific process needs.
- Independent engineering review of contractor proposals for adherence to project specifications, with an eye towards ensuring the installation of the appropriate filtration technology.

System Analysis:

The Mid-South Engineering Pneumatics Team has the experience and background to troubleshoot deficient performance of fume and dust control systems. Typical problems might be:

- System not meeting customer's needs
- System out-of-balance, either due to poor original design or system modifications.
- Systems compromised by material accumulation
- Ventilation or filtration equipment whose performance has deteriorated over time.



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System Analysis (cont.):

To assess system performance and advise the plant on system repairs and upgrades, Mid-South Engineering would supply the following services:

- Generation of single-line sketches of systems to facilitate location of necessary test ports and subsequent ventilation system calculations.
- Identify locations of suspected air infiltration due to erosion of ductwork or fittings.
- Measure and compile air measurement data to establish the baseline system performance and identify all specific system deficiencies.
- Identify any areas of the plant with settled dust or other evidence of hood capture problems.

Upon completion of the field assessment, Mid-South Engineering would provide a comprehensive report, detailing:

- All field data collected, including airflows and pressures measured, fan performance data, and filtration differential pressure
- Tiered recommendations for system improvement, geared towards identifying critical system issues versus preferred system performance versus ideal system operation.
- Detailed observational assessment of the different ventilation locations with notation of any deficiencies in performance due to design, maintenance, or other influencing factors.

Further services available as a result of the assessment process would be:

- Evaluation of existing hood design and recommendations for Hood Capture improvements
- Air balancing by use of blast gates, including preparation of a balance report for future plant use