

FOX APPLICATION GUIDE

Thermal Flow Meters for Air Monitoring

TYPICAL APPLICATIONS INCLUDE:

- Air Injection
- Combustion Air
- Compressed Air
- Cooling Air
- Dryer Air
- Leak Detection
- Purge Air
- Seal Air Flow
- Wastewater Aeration
- Ventilation

Accurately Measuring Air Flow for Improved Systems Monitoring

Fitting your systems with accurate air flow meters is an effective first step in controlling energy costs. As the price of power continues to rise, many plant managers are using sensor data collected by air flow meters to assist in improving control of compressors, blowers and other air systems.

With a mass air flow meter system, costly air and gas leaks can be identified on a system-wide scale. This is especially important when considering that leaks are frequently a significant source of lost energy, sometimes wasting up to 30% of output in standard cubic feet or liters per minute of airflow.

Compressed air system leaks can also cause a drop in system pressure, force equipment to cycle more frequently, and lead to additional maintenance requirements and downtime. Anywhere from 7 to 10 times more costly than electrical energy, compressor systems require optimal efficiency and air flow control. Repairing leaks is critical to reducing plant operating and maintenance costs. Fox Flow Meters use a high-accuracy sensor to provide an excellent method for evaluating compressor efficiency and locating these serious gas leaks.

Air injection used in combustion processes reduces instability caused by pressure oscillations and helps to reduce NOx emissions. Air injection methods can change the flame structure and reduce heat-release fluctuations in combustors thereby improving performance. Measuring the air flow of injection to keep flow at a stable flowrate is essential to the process.

In certain industrial applications, air-cooled heat exchanger systems are becoming more common than water cooling systems, especially in areas where water may be scarce. Air cooling can be less complex and more cost-effective than



Cooling towers located at industrial facilities.



Large fans used for industrial processes.

water cooling systems. To diagnose problems or to conduct system performance assessments, data on air flow within the system must be collected.

In manufacturing products that require spray coatings or drying cycles for granulated products, the consistency of product size or appearance can be affected by the drying system performance. Bed dryers and drum dryers are typical systems used and they require high accuracy and repeatability for consistent control of the drying process.

Motor cages at pump stations require air purging to prevent the accumulation of vapors. Fox Meters can monitor air flow to detect interruptions that can cause damage to the system.

Air monitoring applications benefit from Fox flow meters' accurate and repeatable measurement of mass flow rate, fast response, and low-flow sensitivity.



399 Reservation Road | Marina, CA 93933
Office: 831.384.4300 | Fax: 831.384.4312
foxthermal.com



Fox Model FT4A with extensive approvals suitable for industrial uses.