

POSSIBLE THERMAL MASS FLOW APPLICATIONS

Application	Details
Coal Fired Power Plant	
<i>Primary and Secondary Air Flow</i>	<i>Monitoring the primary & secondary (reheat) air flow in coal fired utilities for boiler efficiency</i>
<i>Exhaust Flow</i>	<i>Monitor stack exhaust for environmental compliance</i>
Combustion Control	
<i>Natural Gas, Oxygen, and Air Flow</i>	<i>Monitoring and controlling of combustion air oxygen and natural gas ratios are critical for optimal boiler efficiency</i>
Compressed Air Monitoring	
<i>Perform Audits</i>	<i>Improve overall cost effectiveness of compressed air system</i>
<i>Detect Leaks</i>	<i>Eliminate waste-Improve efficiency of overall system</i>
<i>Sub-meter for Conservation</i>	<i>Reduce energy expense</i>
Fiberglass Production	
<i>Combustion Control</i>	<i>Monitor flow rate of natural gas and oxygen to control air-fuel ratio to optimize burners resulting in higher quality products and greater product yields</i>
Flare Gas	
<i>Exhaust Flow</i>	<i>Monitor normal conditions</i>
<i>Well Site Production Flares</i>	<i>Monitor individual gas production flares at well sites for inlet into flare stack</i>
Food Processing	
<i>Hydrogen Flow</i>	<i>Hydrogen flow rate involved in producing edible oil products like vegetable oil</i>
<i>Nitrogen Flow</i>	<i>Nitrogen flow measurement for food preservation</i>
Glass Manufacturing	
<i>Combustion Control</i>	<i>Monitor oxygen and natural gas flow to control burners for optional glass production</i>
Heat Treating	
<i>Air Flow Control</i>	<i>Monitor air flow in heat treating furnaces to improve quality</i>
Incineration	
<i>Exhaust flow</i>	<i>Measure exhaust flow into the incinerators</i>
Landfill Gas	
<i>Methane-CO₂ Mixture on Vented Landfill Flares</i>	<i>Measure the flow rate of the landfill gas vent flares after the compressor</i>
Leak detection	
<i>Low Air Flow Rate</i>	<i>Measuring small amounts of air flow to detect product flaws in many industries with seals, and materials, including filter manufacturing</i>
Metals Recovery	
<i>Air Flow Rate</i>	<i>Air flow rate is critical in forming bubbles that capture metals that otherwise are not recoverable</i>
Monitor In-Plant Natural Gas Consumption	

<i>Plant Monitoring</i>	<i>Track billing meter, assess daily flow peaks, determine demand for each shift</i>
<i>Sub-metering</i>	<i>Monitor department usage, and analyze associated expenses (including a comparative measurement to the utility gas meter)</i>
Natural Gas Distribution	
<i>Check Meters</i>	<i>Natural gas distribution lines require "check" meters to measure usage (downstream of gate valves)</i>
<i>Source Control</i>	<i>Monitor natural gas exhaust</i>
Natural Gas Furnaces	
<i>Natural Gas Consumption</i>	<i>Measure natural gas consumption for furnaces that burn natural gas in a nitrogen environment</i>
Natural Gas Odorizing	
<i>Scent Control</i>	<i>Monitor Argon & Nitrogen flow rate involved in certain plastics production</i>
Nitrogen Blanketing For Tanks	
<i>Tank Blanketing</i>	<i>Measure the nitrogen flow layering over the contents of the tank to "insulate" the product or keep vapor emissions</i>
<i>Surface blanketing</i>	<i>Move product, such as pills, along a layer of nitrogen on a conveyer fluidized beds</i>
Nitrogen Purge	
<i>Nitrogen Flow Rate</i>	<i>Numerous processes require a purging of the process to clear out residual gases and contamination</i>
Plastics Molding	
<i>Nitrogen Flow</i>	<i>Nitrogen flow rate controls the forming of plastic shapes such as gas tanks and plastic bottles</i>
<i>Air Flow Control</i>	<i>Air flow rate on compressor outlet into plastic bottle blow mold machine (Pepsi Company)</i>
Powder Coated Painting	
<i>Painting cars using robotics</i>	<i>Monitor air flow, including turbine air, atomizing air and shaping air to control automotive paint quality</i>
Pulp and Paper	
<i>Drying Air Flow</i>	<i>Improve product quality by monitoring drying air flow onto paper</i>
Pump Manufacturing	
<i>Test Pumps</i>	<i>Monitor air flow to test pumps for manufacturing quality control</i>
Remediation	
<i>Air Flow</i>	<i>Meter the air intake used to detect contaminated soil</i>
Specialty Gas Monitoring	
<i>Nitrogen and Argon Plant Metering</i>	<i>Monitor flow rate and consumption of nitrogen, argon, and other specialty gases in a plant's gas distribution system.</i>
<i>Nitrogen and Argon Sub-Metering</i>	<i>Sub-meter nitrogen and argon, etc by department to determine cost savings</i>
<i>Nitrogen, Argon, and Hydrogen Consumption</i>	<i>Totalize mass flow for accurate and reliable customer billing</i>
Spray Drying	
<i>Uniform Air Flow</i>	<i>Monitor air flow to uniformly dry components in pharmaceutical, food processing, fertilizer and chemical industries</i>

Steel Fabrication	
<i>Argon and Nitrogen Flow Rate</i>	<i>Monitor air control argon & nitrogen flow rate for bottom stirring and purification</i>
<i>Coke / Over Gas</i>	<i>Monitor the refined end of the coke oven gas process</i>
Pharmaceutical - Tablet & Pill Coating	
<i>Monitor Atomizing Gas</i>	<i>Monitor the atomizing air or nitrogen flow rate in the pharmaceutical pill coating press</i>
<i>Monitor Exhaust Gas</i>	<i>Monitor the flow rate of the downstream side of the pill coating process to determine the by product emission</i>
Testing Hydrogen Cooled Turbines	
<i>Hydrogen Leak Detection</i>	<i>Measure the air flow rate that is analyzed for the presence of hydrogen</i>
Wastewater Treatment	
<i>Aeration flow</i>	<i>Monitor and adjust the air flow bubbling into aeration basins to control the critical dissolved oxygen level</i>
<i>Digester Gas</i>	<i>Monitor the flow of methane and carbon dioxide mixture in the digesters to facilitate the sewage treatment process</i>
<i>Biogas</i>	<i>Measure the excess gas for storage as backup fuel, and monitor the emissions</i>
<i>Odorizing</i>	<i>Monitor the oxygen flow in odorizing (fragrancing)</i>
Water Purification	
<i>Oxygen Monitoring</i>	<i>Monitor the oxygen flow rate in ozone generator systems that purify municipal water supplies</i>