

APPLICATIONS

COMMON APPLICATIONS FOR SAGE THERMAL MASS FLOW METERS

Compressed Air Monitoring	Perform Audits	Improve overall cost effectiveness of compressed air system
	Detect Leaks	Eliminate waste – Improve efficiency of overall system
	Sub-Meter for Conservation	Reduce energy expense
Monitor Plant Nat. Gas Consumption	Plant Monitoring	Track billing meter, assess daily flow peaks, determine demand for each shift
	Sub-Metering	Monitor department usage, and analyze associated expenses
Natural Gas Distribution	Check Meters	Natural gas distribution lines require “check” meters to measure usage (downstream of gate valves)
	Source Control	Monitor NG exhaust (Dual Channel Meters—Low Flow and High Flow)
Specialty Gas Monitoring	Nitrogen and Argon Plant Metering	Monitor flow rate and consumption of N ₂ , AR and other specialty gases in a plant’s gas distribution system
	Nitrogen and Argon Sub-Metering	Sub-Meter N ₂ , AR, etc. by department to determine cost savings
	Nitrogen, Argon & Hydrogen Consumption	Totalize mass flow for customer billing
Flare Gas	Exhaust Flow	Monitor normal and upset condition (Dual Channel Meters) Monitor individual flare header pipes
Wastewater Treatment	Aeration Flow	Monitor and adjust the air flow bubbling into aeration tanks to control the critical dissolved oxygen level
	Digester Gas	Monitor the flow of CH ₄ /CO ₂ mix in the digesters to facilitate the sewage treatment
	Biogas	Measure the excess gas for storage as backup fuel, and monitor emissions
	Odorizing	Monitor Oxygen flow in odorizing (fragrancing)
Water Purification	Oxygen Monitoring	Monitor O ₂ flow rate in ozone generator systems that purify municipal water supplies
Incineration	Exhaust Flow	Measure exhaust flow in incinerators
Combustion Control	Natural Gas, Oxygen, Air Flow	Monitoring and controlling of combustion air or oxygen and natural gas ratios are critical for optimal boiler efficiency Stoichiometric ratio control
Tablet and Pill Coating	Monitor Atomizing Gas	Monitor the atomizing air or nitrogen flow rate in the pharmaceutical pill coating process
	Monitor Exhaust Gas	Monitor the flow rate of the downstream side of the pill coating process to determine the by-product emission
Nitrogen Blanketing	Tank Blanketing	Measure the nitrogen flow layering over the contents of the tank to “insulate” the product
	Surface Blanketing	Move product, such as pills, along a layer of nitrogen on a conveyer. Fluidized beds
Fuel Cells	Air Flow	Monitor the air flow to control the efficiency of fuel cell power plants
	Hydrogen Flow	Monitor the hydrogen generated in the fuel cell process
Landfill Gas	Methane CO ₂ Mix	Monitor gas to engines for electrical power
Testing Hydrogen Cooled Turbines	Hydrogen Leak Detection	Measure air flow rate that is analyzed for hydrogen presence
Natural Gas Odorizing	Scent Control	Monitor NG flow to control ratio of liquid scent injection
Plastic Production	Argon, Nitrogen Flow	Monitor AR & N ₂ flow rate involved in certain plastics production
Fiberglass Production	Combustion Control	Monitor flow rate of natural gas and oxygen to control air-fuel ratio to optimize burners resulting in higher quality product and greater product yields
Pump Manufacturing	Test Pumps	Monitor air flow to test pumps for manufacturing quality control
Natural Gas Furnace	Natural Gas Consumption	Measure NG consumption for furnaces that burn NG in a nitrogen environment
Steel Fabrication	Argon and Nitrogen Flow Rate	Monitor and control AR & N ₂ flow rate for bottom stirring and purification
	Coke/Oven Gas	Monitor the refined end of the coke oven gas process
Metals Recovery	Air Flow Rate	Air flow rate is critical in forming bubbles that capture precious metals that otherwise are not recoverable
Plastics Molding	Nitrogen Flow	Nitrogen flow rate controls the forming of plastic shapes such as gas tanks
Spray Drying	Uniform Air Flow	Monitor air flow to uniformly dry components in pharmaceutical, food processing, fertilizer and chemical industries
Aluminum Smelters	Natural Gas and Air Flow	Combustion control for boilers and furnaces
	Chlorine and Argon Flow	Hastelloy flow meter monitors the CL ₂ and AR in the smelting process
Remediation	Air Flow	Meter the air intake used to detect contaminated soil
Powder Painting	Painting Cars with Robotics	Monitor air flow, including turbine air, atomizing air and shaping air to control automotive paint quality
Heat Treating	Air Flow	Monitor air flow in heat treating furnaces to improve quality
Glass Manufacturing	Combustion Control	Monitor oxygen and natural gas flow to control burners for optimal glass production
Pulp and Paper	Drying Air Flow	Improve product quality by monitoring drying air flow
Food Process	Hydrogen Flow	Hydrogen flow rate involved in producing vegetable oil
	Nitrogen Flow	Nitrogen flow measurement for food preservation
Coal Fired Power Plant	Primary and Secondary Air Flow	Monitoring the primary & secondary (reheat) air flow in coal fired utilities for boiler efficiency
	Exhaust Flow	Monitor stack exhaust for environmental compliance
Nitrogen Purge	Nitrogen Flow Rate	Numerous processes require a purging of the process to clear out residual gases and contamination.
Leak Detection	Low Air Flow Rate	Measuring small amounts of air flow detects product flaws in many industries, including filter manufacturing