

Thermal mass flowmeters Sensyflow

Common applications

ABB's Sensyflow series of thermal mass flowmeters is the best choice for industrial and test rig applications, where the combination of direct mass flow measurement with high accuracy, short response times, reliability and easy installation is an everyday requirement.

Direct gas mass flowmetering solutions succeed in a variety of environments and are essential for example for burner control, automotive test benches, at key stages across the wastewater process and in the increasingly common measurement of biogas and activation air.

The following list provides an overview of some of the countless applications, ABB's Sensyflow series has proven to be successful in.



Application	
Aluminum smelters	
Natural gas and air flow	Combustion control for boilers and furnaces
Chlorine and argon flow	Hastelloy flowmeter monitors the CL2 and AR in the smelting process
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
Combustion control	
Natural gas, oxygen, air flow	Monitoring and controlling of combustion air oxygen and natural gas ratios are critical for optimal boiler efficiency Stoichiometric ratio control
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
Fiberglass production	
Combustion control	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
Flare gas	
Exhaust flow	Monitor normal and upset condition (dual channel meters) Monitor individual flare header pipes
Food process	
Hydrogen flow	Hydrogen flow rate involved in producing vegetable oil
Nitrogen flow	Nitrogen flow measurement for food preservation
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
Glass manufacturing	
Combustion control	Monitor oxygen and natural gas flow to control burners for optional glass production
Heat treating	
Air flow	Monitor air flow in heat treating furnaces to improve quality
Incineration	
Exhaust flow	Measure exhaust flow in incinerators

Application	
Landfill gas	
Methane CO ₂ Mix	Monitor gas to engines for electrical power
Leak detection	
Low air flow rate	Measuring small amounts of air flow detects product flaws in many industries, including filter manufacturing
Metals recovery	
Air flow rate	Air flow rate is critical in forming bubbles that capture metals that otherwise are not recoverable
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)
Natural gas furnace	
Natural gas consumption	Measure NG consumption for furnaces that burn NG in a nitrogen environment
Natural gas odorizing	
Scent control	Monitor AR & N ₂ flow rate involved in certain plastics production
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
Nitrogen purge	
Nitrogen flow rate	Numerous processes require a purging of the process to dear out residual gases and contamination
Plastics molding	
Nitrogen flow	Nitrogen flow rate controls the forming of plastic shapes such as gas tanks
Powder painting	
Painting cars with robotics	Monitor air flow, including turbine air, atomizing air and shaping air to control automotive paint quality
Pulp and papers	
Drying air flow	Improve product quality by monitoring drying air flow
Pump manufacturing	
Test pumps	Monitor air flow to test pumps for manufacturing quality control
Remediation	
Air flow	Meter the air intake used to detect contaminated soil
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
Spray drying	
Uniform air flow	Monitor air flow to uniformly dry components in pharmaceutical, food processing, fertilizer and chemical industries
Steel fabrication	
Argon and nitrogen flow rate	Monitor air control AR & N ₂ flow rate for bottom stirring and purification
Coke/over gas	Monitor the refined end of the coke oven gas process
Tablet and pill coating	
Monitor atomizing gas	Monitor the atomizing air or nitrogen flow rate in the pharmaceutical pill coating press
Monitor exhaust gas	Monitor the flow rate of the downstream side of the pill coating process to determine the by product emission
Testing hydrogen cooled turbines	
Hydrogen leak detection	Measure air flow rate that is analyzed for hydrogen presence
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

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