azbil

Industrial & combustion furnaces

Gas flow rate control

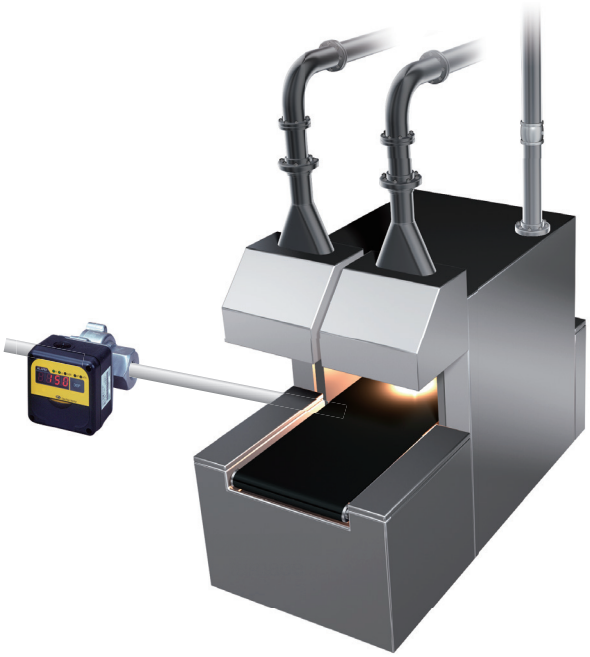
Visualizing fuel gas consumption

Save energy and cut CO_2 by knowing how much gas each device uses

Product	Process sensor Gas Flow Monitor	Process/ equipment	General heating furnaces
Model No.	CMG ___		

Current Situation

- Because the gas flow rate is not being measured, the charge is not proportional to consumption. Even if some department reduces consumption, the cost stays the same, so there is no motivation to save energy.
- A turbine or Ultrasonic flowmeter is used to visualize fuel gas consumption.
- Turbine flowmeters are used at sites where the flow rate fluctuates.

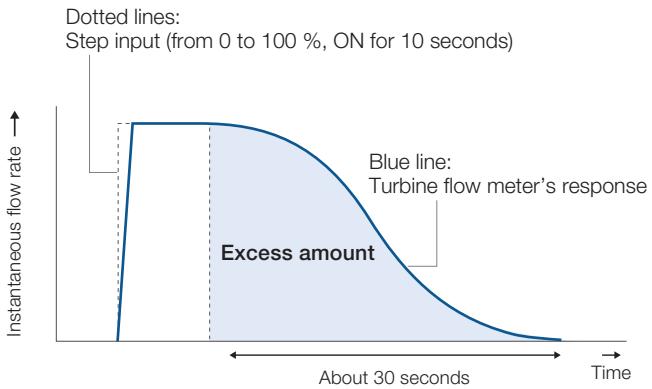


Current Problems

- There are no compact low-price flow meters with low pressure loss that can be used for fuel gas supplied at low pressure.
- Volumetric flow meters have a large amount of error because the volume of the gas increases or decreases as the temperature and pressure change.

Examples
When the temperature rises from 0 to 30 °C, the measured flow rate increases by about 10 %.
When the pressure drops from 10 kPa (gauge) to 0 kPa, the measured flow rate increases by about 10 %.

- The turbine flow meter's measurements are greater than the actual flow rate because inertia keeps the turbine rotating even after the flow stops.



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Solutions

Solution 1

A compact low-price gas flow meter with low pressure loss specifically designed for fuel gas

The flow meter model CMG, which has low pressure loss and is dedicated for fuel gas use, was jointly developed with a gas company. This compact and affordable flow meter is designed to visualize the flow rate of individual devices and burners with high sensitivity. It is expected to increase the motivation to cut gas consumption because it enables billing in proportion to the amount of gas used.

Solution 2

Mass flow rate measurement is not affected by gas expansion or contraction due to changes in temperature and pressure

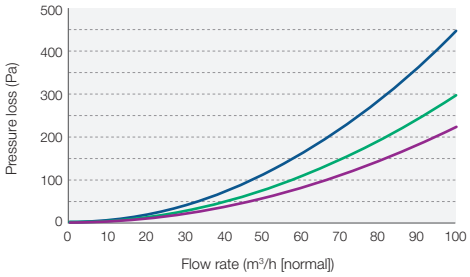
Because model CMG is a mass flow meter, there is no measurement error even when the volume of gas increases or decreases as the temperature or pressure changes.

Solution 3

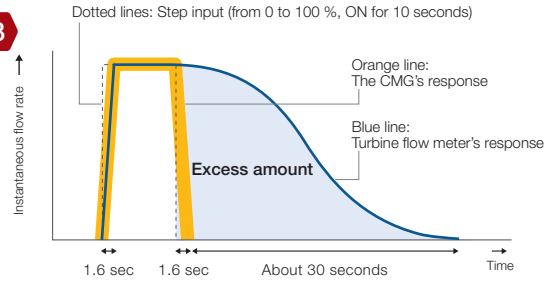
High-speed response minimizes error if the flow rate fluctuates

Model CMG has fast response and provides measurement with little error even if the flow rate fluctuates.

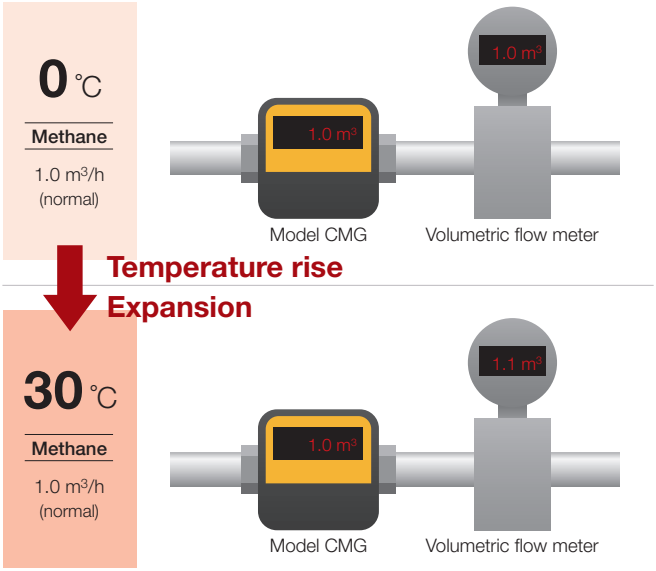
Solution 1



Solution 3



Solution 2



Related products

Dynamic self-checking burner controller
Model AUR455
JIS-compliant burner controller

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