



Typical Applications Include:

- [Building Sub-metering](#)
- [Process Sub-metering](#)
- [Departmental Sub-metering](#)
- [Industrial Park Sub-metering](#)

THERMAL FLOW METERS HELP IN ENERGY ACCOUNTING AND CUSTODY TRANSFER

Analyzing demand, improving efficiency and reducing waste will curb expenses from higher energy prices.

Rising energy prices have made daily accounting of natural gas usage a priority for a variety of industrial facilities with multiple processes and/or buildings. Fuel gas flow meters are used to analyze demand, improve operating efficiency, reduce waste and adjust for peak usage.

In the past, conventional flow meters, such as orifice plates, venturis, vortex and turbine meters were often used to measure natural gas consumption. However, these volumetric devices offer limited rangeability and require pressure and temperature transmitters to compensate for density changes.

Today, the thermal mass flow meter has become the preferred device for many energy accounting and custody transfer applications. The thermal flow meter measures gas mass flow directly, with no need for additional hardware. It also provides better rangeability and a lower pressure drop than volumetric flow meters.

For example, one manufacturer replaced a fuel measurement system that consisted of turbine meters with ancillary pressure and temperature transducers with thermal flow meters. Not only did they reduce the time and expense associated with servicing the turbine meters, they also found that the thermal flow meters' wide turndown provided a more accurate measurement at low and varied flows, ensuring accurate cost allocation and improved combustion control capability.

In addition to energy accounting, thermal flow meters help plant managers provide accurate usage reports for environmental compliance, and compare measured usage to billing reports from gas providers.

University campuses and industrial parks use totalizing flow meters to allocate fuel costs to various buildings and/or tenants. Natural gas check meters are often used to document usage, negotiate rates and resolve billing disputes. Fox flow meters may be used to monitor and bill for fuel consumption on skid-mounted generators and compressors. Sub-metering by department or process helps manufacturers assess inefficiencies, assign costs and implement conservation measures.

In addition to the primary benefits of direct measurement of mass flow rate, low-flow sensitivity, and fast response, the thermal flow meter's no-moving parts design also helps reduce maintenance costs.



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