

ST100 Flow Meter Measures Hydrogen Gas Accurately & Safely for Process Control

Designed for Oil/Gas, Chemical Refining, Biomass Gasification, and More



San Marcos, CA — Instrument and plant engineers responsible for managing processes with a wide range of hydrogen gas applications will find the [ST100 Series Thermal Flow Meter](#) from [Fluid Components International \(FCI\)](#) provides precision mass flow measurement in a no-moving parts instrument featuring compliance with the necessary major safety approvals for the Americas and worldwide.

Hydrogen (H₂) is one of the fundamental building blocks in the petrochemical industries with many applications. H₂ is used in the manufacture of ammonia, which is an essential component of fertilizers for the agricultural industry. H₂ also plays an important role in the production of methanol, which supports the manufacture of many different polymers. The automotive industry also is developing H₂ as a clean energy source for cars, trucks and buses.

The manufacture of hydrogen gas typically requires the refining of methane or other light hydrocarbons from natural gas or oil. Light hydrocarbon gas is mixed with steam and then the process continues with a complex series of steps that includes heating in a high temperature furnace to create a chemical reaction, which eventually results in hydrogen gas. Throughout this process, accurate flow measurement is essential with a rugged and reliable air/gas meter.

The ST100 Series Flow Meter is ideal for hydrogen gas production processes and supports other industrial applications of H₂. A sophisticated thermal dispersion technology air/gas flow meter, the ST100 Flow Meter combines feature- and function-rich electronics with advanced flow sensors for advanced air/gas flow measurement. Offering direct gas flow measurement, no additional sensors or flow calculating devices are required for measurement. Its no moving parts design also virtually eliminates wear, breakage and maintenance.

The ST100 Flow Meter can be calibrated to measure H₂ or virtually any process gas, including wet gas, mixed gases and dirty gases. The basic insertion style air/gas meter features a thermal flow sensing element that measures flow from 0.25 to 1000 SFPS (0.07 NMPS to 305 NMPS) with accuracy of ±0.75 percent of reading, ±0.5 percent of full scale. With the ST100 meter, H₂ also can be measured safely at high flow rates from 0 to 6,600 lb/hr (0 to 3,000 kg/hr) at 29 to 87 psi.

When selecting the ST100 meter, users have multiple communication options. They can choose from: 4-20 mA analog, frequency/pulse, or certified digital bus communications such as HART, Foundation Fieldbus, Profibus PA or Modbus RS485.

Developed with a graphical, multivariable backlit LCD display, the ST100 meter brings new meaning to the term “process information”. Its sophisticated readout continuously displays all process measurements and alarm status for easy on-site viewing by technicians, and it has the ability to query for service diagnostics.

The ST100 meter’s electronics include a user selectable and programmable data logger. Readings are stored in a removable, internal micro-SD card. The micro-SD card has a 2 GB capacity capable of storing approximately 21 million readings. Recording time base is user selectable with a maximum rate of 1 reading per second. The logging feature is selectable via the front panel menu or via the serial port and configuration software tools.

The feature-rich ST100 meter utilizes constant power thermal mass flow sensing technology that measure flow with 100:1 turndown in ranges from 0.006 to 1850 SCFM [0.01 to 3140 NCMH]. The transmitter/electronics can be integrally mounted with the flow body or may be remote mounted to 1000 feet [305m] away. The transmitter enclosure is NEMA4X/IP67 rated and available in painted aluminum or stainless steel.

ST100 meters are agency approved for hazardous environment installations. FCI products undergo rigorous agency testing and obtain their approvals on the entire instrument, not just the enclosure. Approvals available for the ST100 Flow Meter include: FM, FMc, ATEX, IECEx, EAC/TRCU, CPA, NEPSI, InMetro, and CE Approved.

Fluid Components International is a global company committed to meeting the needs of its customers through innovative solutions for the most challenging requirements for sensing, and measuring flow, pressure and temperature of gases.

Contact: FCI: 1755 La Costa Meadows Dr, San Marcos, CA 92078
Web: www.fluidcomponents.com Tel: 800-854-1993 Tel: 760-744-6950 Fax: 760-736-6250
Email: FCImarcom@fluidcomponents.com