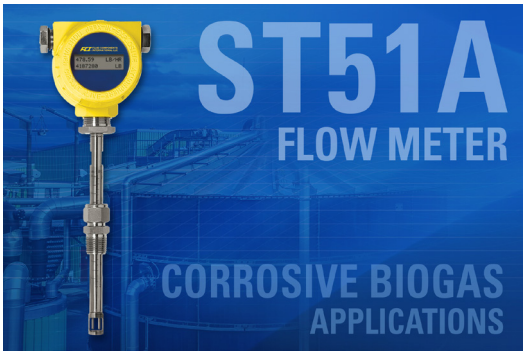
FLUID COMPONENTS INTERNATIONAL LLC
A PST BRAND

Measuring Corrosive Biogas Accurately & Safely With Rugged, HazEx-Rated Thermal Mass Flow Meter

Ideal Instrument Solution for Industrial and Municipal Waste Gas Processes Lowers Maintenance and Extends Instrument Life To Reduce Cost of Ownership



San Marcos, CA — Delivering precision gas measurement accuracy combined with a rugged design and full agency safety approvals, the compact ST51A Biogas Flow Meter from Fluid Components International (FCI) provides industrial and municipal wastewater treatment process engineers with a reliable, long-life, low cost-of-ownership solution to meet their needs in demanding corrosive and moist wet gas safety-challenged plant environments.

With today's focus on reducing carbon footprints and deriving energy from multiple natural resources, waste biogas from industrial and municipal wastewater treatment plants provides an attractive energy option. Biogas from organic waste such as food or meat processing plants, fermentation systems for dairy products or wineries and breweries, as well as on-farm manure, and sewage treatment plants, can be digested under anaerobic conditions in reactor tanks.

The output from these waste gas reactor systems is valuable biogas, which is measured with flow meters to support green co-gen energy systems or alternatively for disposal by flaring. Biogas is a potent mixture of combustible methane (CH_4), carbon dioxide (CO_2), water and trace levels of corrosive hydrogen sulfide (H_2S), gas, which is problematic for many flow measuring technologies. The combustible properties of CH_4 gas also require HazEx safety approvals for its safe use to protect people, equipment and plants.

The corrosive, sticky nature of the H_2S particles can affect the performance of some flow instrument sensor technologies, leading to frequent, labor-intensive maintenance cleanings that require technician time and can reduce plant throughput. The thermal mass ST51A Biogas Flow Meter is designed for dirty, potentially hazardous biogas processes. It provides operators with highly accurate and repeatable mass flow measurement to facilitate system control, log gas production data and provide mandated safety and environmental reporting information.

To survive in biogas processes, the ST51A Flow Meter comes with a 316 stainless steel body and

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Hastelloy-C22 thermal sensors. It features a no-moving parts, a non-clogging design, which eliminates the need for constant cleaning under wet, dirty biogas conditions. The SIL-rated ST51A Meter includes full global Division 1, Zone 1, Ex safety approvals, as well as ATEX/UKEX, IECEx, FM, FMc , EAC/TR CU, EQM/ECAS, NEPSI, CE Mark, CPA, PED, and RoHs Compliant.

The ST51A Flow Meter's electronics are housed in a durable NEMA 4X, IP67 dust/water ingress protected and rugged, all-metal (aluminum or 316L stainless steel) enclosure with dual conduit ports in either NPT or M20 threading. The transmitter can be integrally mounted with the flow element (probe) or can be remote mounted for installation flexibility. The instrument comes standard with dual 4-20 mA, NAMUR NE43 compliant outputs and a 500 Hz pulse output.

Digital communication is added to the ST51A Flow Meter via HART or Modbus. HART Version 7, Fieldcomm Group certified; available over output#1, DD file provided. Modbus RS485 (RTU and ASCII). Standard Ms (16 bit), Standard LS (16 bit) and Daniel extension (32 bit This provides plant staff with digital data on flow rate and temperature parameters, the instrument's health, fault diagnostics and asset management info. It also features the capability to make field configuration changes if needed.

This insertion-style flow meter is available in multiple probe lengths for installation into pipe diameters from 2.5 to 24 inches (63 to 610 mm). It is easily connected into the pipe via a 1/2 inch or 3/4 inch NPT compression fitting. Its insertion style design requires only a simple, single point tap into the process piping that requires minimal technician time.

The ST51A Flow Meter utilizes constant power thermal dispersion mass flow technology, which employs a slightly heated sensor that provides a subtle drying effect on condensating moisture to make it highly effective (accurate) in moist biogas applications. Built-in temperature compensation circuitry provides correct readings under variable climate conditions—cold winters and hot summers.

The ST51A Flow Meter operates over a wide measurement range of 0.3 to 400 SFPS (0,08 to 122 MPS) with up to 100:1 turndown. The instrument's standard accuracy is ± 2% reading, ±0.5% full scale, with an optional configuration to provide higher accuracy to ±1% reading, ±0.5% full scale.

FCI solves flow and level measurement applications with advanced thermal dispersion technologies. With 60 years' experience and the largest installed base of thermal flow meters, flow switches and level switches, count on FCI to know your application and have the solutions.

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