

## FCI's GF90 Gas Flow Meter Provides Accurate Measurement for Landfill Gas Operations

Measures Landfill Gas Extraction and Provides Data for Pollution Reduction Credits



San Marcos, CA— With the [GF90 Mass Flow Meter](#) from [Fluid Components International](#), landfill gas recovery operators can now accurately measure and control mixed composition greenhouse gases while at the same time generate electric power with co-generation technology and meet environmental regulatory reporting requirements.

Landfills produce a mixture of methane (CH<sub>4</sub>) and carbon dioxide (CO<sub>2</sub>) with traces of nitrogen, oxygen and other gases. These gases are extracted from the landfill with multiple wellheads and collected via a network of pipes with a common header pipe, which feeds gas to turbines that produce clean electric power. Typical systems include turbines, compressors, blowers, pumps, flow meters, knock-out pots and a flare or oxidizer gas system.

Accurate landfill gas flow measurement is essential to provide operators with system-wide information on the amount of gas being extracted and utilized for electric power generation and/or disposed of via the flare or gas oxidizer system. The plant operators report the gas flow data to environmental agencies for pollution regulatory purposes and for carbon credit programs.

The highly intelligent GF90 Landfill Gas Flow Meter provides precise gas flow measurement in challenging landfill operating environments. Landfill operations generate mixed hydrocarbon composition gases, which are also often wet and dirty as well as potentially explosive. Wide swings in gas flow rates occur due to seasonal temperature swings, which require low flow sensitivity and the ability to withstand sudden large increases in system gas throughput.

The GF90 Flow Meter delivers high accuracy measurement over a wide range, including low flows. It is designed with a thermal mass gas flow sensing element of 316

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Stainless steel and nickel-braze construction. Featuring constant power technology, the GF90 can achieve turndowns from 1000:1, accuracy of  $\pm 1$  percent of reading plus 0.5 percent of scale, with repeatability of  $\pm 0.5$  percent of reading or better.

The GF90's wide flow range is suitable for air/gas flows from 0.25 to 1600 SFPS (ft/sec at a standard temperature of 70 °F and pressure of 14.7 psia) or 0.08 NMPS to 487.7 NMPS (m/sec at a normal temperature of 21.1 °C and pressure of 1.013 bar absolute). It is available for service in broad range of fluid temperature applications, from -100 °F to 850 °F (-73 °C to 454 °C) and pressure applications to 1000 psig [69 bar (g)].

Designed for multi-gas or variable flow processes, the intelligent GF90 Flow Meter includes an advanced microprocessor-based programmable transmitter. The transmitter can store up to three calibration groups. Each group can be independently configured for a specific calibration range, fluid, switch point settings, etc., to provide accuracy in complicated processes. The instrument is also inherently multi-variable.

The GF90's transmitter electronics are addressable via a built-in LCD display and keypad or through its RS-232C serial port. This allows the user to perform in-field programming to change zero, span, switch points and engineering units, or to perform instrumentation verification, troubleshooting and other critical functions. The serial I/O ports support access to computers or ASCII terminals.

The GF90's transmitter features two independent, field programmable analog signal outputs of 4-20 mA, 0-10 Vdc, 0-5 Vdc, and/or 1-5 Vdc, which can be assigned to any combination of flow and/or temperature. It also offers dual alarm switch points with relay outputs. The switch points are user field-programmable to alarm at high, low or windowed and can also be assigned to flow and/or temperature readings. Dual 10A relay outputs are provided for contact closures to lamps, alarm and control systems.

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