

Self-Cleaning Mass Flow Meter Reduces Maintenance Expenses in Dirty Gas Applications

Chemical Processing, Electric Power, Oil/Gas, Pollution Monitoring,
Steel Production, Wastewater Treatment and More



San Marcos, CA

With its innovative self-cleaning purge ports, the Model GF90 Flow Meter from Fluid Components International (FCI) maintains optimum flow measurement performance while dramatically reducing maintenance costs in rugged industry applications where dirt, grit and grime are present in the fluid.

The insertion style GF90 Mass Flow Meter's self-cleaning purge ports minimize maintenance requirements and costs in dirty gas applications. In many process or manufacturing plants, technician access to flow meters for inspection or maintenance can be problematic due to their location. By connecting the GF90's purge ports to compressed air, inert gas or solvent purge lines, process contaminants can be removed regularly and without un-installing the flow sensor element from the pipe to ensure continuous high accuracy measurement and significantly reduce maintenance activity.

The versatile GF90 utilizes a thermal mass gas flow sensing element designed with 316 stainless steel and nickel-braze construction. It also can be specified with corrosion and abrasion-resistant alloys, including Hastelloy, Monel and tantalum, and with all-welded construction for service in the harshest environments. It is available for service in broad range of fluid temperature applications, from -100 to 850°F (-73 to 454°C) and pressure applications to 1000 psig [69 bar (g)].

With constant power technology, the GF90 Flow Meter features turndowns from 1000:1, accuracy of ± 1 percent of reading plus 0.5 percent of scale, with repeatability of ± 0.5 percent of reading or better. Flow sensitivity is from 0.25 to 1600 SFPS [ft/sec at a standard temperature of 70°F and pressure of 14.7 psia] or 0.08 to 487.7 NMPS [m/sec at a normal temperature of 21.1°C and pressure of 1.013 bar absolute]. Combining a rugged, low maintenance design with exceptional features, the GF90 is ideal for use in chemical plants, electric power utilities, oil/gas processing, pollution monitoring, steel, and wastewater treatment. Typical flow measurement applications include: fly ash, flare gases, blast furnace gases, smokey cyclone separator air flow, landfill gases, digester and bio-gases, stack pollution monitoring and dirty gas in filter production.

Developed for complex multi-gas or variable flow processes, the 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 gas processes. The instrument is also inherently multi-variable, providing both flow and temperature measurements without any additional tap points.

The GF90's transmitter electronics are addressable via a built-in LCD display and keypad or through its RS-232C and RS-485 serial ports. 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.

A NEMA Type 4X (IP66) rated transmitter enclosure is standard, with configuration options for local or remote mount application. Optional Class I and II, Division 1 and 2, Groups B, C, D, E, F and G [EEx d IIC] transmitter enclosures are also available with agency approvals for Factory Mutual Research, CSA and ATEX.

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.