

Multipoint Flow Meters Support Continuous Air Flow HVAC Systems for Hazardous Area Safety

*Ideal for Oil/Gas Refineries, Chemical Plants,
Offshore Rigs, Vessels and Laboratories*



San Marcos, CA — Wherever toxic and combustible gases are a potential hazardous threat to employees and facilities, those responsible for heating, ventilation and air conditioning (HVAC) systems will find the [MT100 Series multipoint thermal mass flow meters](#) from [Fluid Components International \(FCI\)](#) helps them accurately measure and control continuous or positive air flow.

Continuous or positive air flow HVAC systems are installed to protect employees and operations from the potential harmful effects of toxic and combustible gases, such as leaking hydrogen sulfide (H₂S), methane (CH₄) and others. These specialized systems provide a continuous air flow pattern or passive barrier to separate staffed work areas or automated process areas (unstaffed) from hazardous areas where gas leaks can lead to accidents.

Process and plant engineers frequently face a maze of HVAC system equipment, including boilers, chillers, ducts, pumps, fans, valves, thermostats and controllers—all of which makes operating these systems a challenge. Adding to this complexity is the need to maintain specific air flows or pressures in various areas to prevent accidents. For this reason, accurate air flow measurement within the system is critical to its efficient design and operation.

FCI's MT100 Series multipoint air/gas flow meters combine state-of-art electronics technology with application-proven precision air flow sensors in a rugged industrial package designed for the most demanding hazardous plant and building operating environments. They provide precision, temperature-compensated direct mass flow measurement of air for highly reliable, repeatable HVAC PID control with low maintenance requirements.

All MT100 Series flow meters have been independently tested and verified to comply with IEC safety directives for EMC and LVD, and carry the CE Marking. Optionally available for process installations with hazardous, potentially explosive gases and/or dust, MT100 meters can be ordered with FM/FMc, ATEX or IECEx agency approvals for Division II/Zone 2.

FCI's thermal mass MT100 Series flow meters are available with two to eight air flow rate sensing points to ensure compatibility with large diameter piping and large ducts. These multiple sensors are inserted at various depths within the duct or pipe and their outputs are multiplexed and averaged to accurately measure the flow rate. These multiple sensors can be installed either across a mast or as discrete, single sensors inserted at multiple points around a large duct or round pipe in a single plane.

In cold or hot ambient weather conditions, or if the intake air could be dusty or dirty, the MT100 flow meters also excel because they are temperature-compensated and there are no orifices or glass windows to foul, fog-up or clog. The MT100 flow meters can measure flow rates over a wide range from 0.25 SFPS to 1000 SFPS [0,07 NMPS to 305 NMPS] with 100:1 turndown. They are also dual-function to also provide air temperature measurement capability from -50°F to 850°F [-45 °C to 454 °C].

The state-of-art transmitter for the MT100 Series Flow Meter is both full-featured and rugged. It comes with an extensive choice of output options to interface with popular building climate control systems, DCS, PLC, SCADA, or recorder. Dual, isolated, high resolution 4-20 mA outputs compliant with Namur NE43, HART (Fieldcomm Group™ certified), Modbus, 0-1 kHz frequency/pulse and a USB port are all included, standard. They are also optionally available are Foundation Fieldbus or PROFIBUS-PA bus communications.

Its large color touch-screen LCD readout provides process information to users with both analog and digital displays of flow rate, temperature and totalized flow, a user time-base selectable strip-chart of flow rate and sensor status diagnostics. The transmitter's stainless steel enclosure carries a rugged NEMA 4X/IP64 rating. The electronics also include a user programmable data logger feature to which flow rate, temperature and totalized flow as well as fault codes can be recorded on a removable, 8GB microSD card.

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.

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