

Rugged ST80 Series Thermal Mass Flow Meter with ATEX/IECEX Global Approvals and More

Chemical, Electric Power, Oil/Gas, Refining, Solid Waste, and Other Process Industries

San Marcos, CA — Engineers around the globe who are responsible for process and plant safety will be pleased to know that the rugged ST80 Series thermal mass flow meter from Fluid Components International (FCI) is now available with ATEX/IECEX approvals.

The ATEX and the IECEX approvals assure FCI's international customers that the ST80 Series flow meter has been independently certified for safe installation in potentially explosive conditions found in processes and in hazardous gas flow metering applications. The independent third party testing and certified ratings of the ST80 are on the complete instrument, including the sensor element, electronics, and the enclosure, to assure ST80 customers of the highest integrity and plant safety.

The ST80 flow meter's ATEX approval includes: II 2 G EX db IIC T6...T1 Gb Ta = -40°C to +60°C; IP66/67 II 2 D Ex tb IIIC T85°C...T450°C Db Ta = - 40°C to + 60°C; IP66/67. IECEX approvals are: II 2 G EX db IIC T6...T1 Gb Ta = - 40°C to + 60°C; IP66/67 II 2 D Ex tb IIIC T85°C...T450°C Db Ta = - 40°C to + 60°C; IP66/67. These approvals apply to both DC and AC powered versions of the ST80, as well as integral or remote mounting of the transmitter.

The ST80 also carries FM and FMc Div. 1 approvals for USA and Canadian customers. Further, the ST80 flow meters are, as are the company's ST100 Series, ST75A and ST51A thermal mass flow meters, also SIL rated for use in SIS applications.

The ST80 flow meter combines ultra-reliable, feature-rich electronics with the industry's most extensive selection of application-matched flow sensors and best-in-class calibration for use in a wide range of demanding industrial process and plant air/gas flow meter applications. With its no-moving parts thermal dispersion flow sensor, robust transmitter enclosure and the industry's widest selection of process connections, the ST80 provides ease of installation, requires virtually no routine maintenance, and achieves exceptionally long service life.

The ST80 Series meters are suitable for pipe diameters from 1 inch to 99 inches [25 mm to 2500 mm] and air/gas temperatures up to 850 °F [454°C]. They feature accuracy of $\pm 1\%$ of reading, $\pm 0.5\%$ of full scale and repeatability of $\pm 0.5\%$ of reading with flow rates up to 1000 SFPS [305 NMPS] and 100:1 turndown.



The ST80 Series uses FCI's exclusive, patent-pending AST™ (Adaptive Sensing Technology) thermal mass flow measuring technique. AST is a hybrid sensor drive plus measuring circuit that combines both proven thermal dispersion techniques of constant power (CP) and constant temperature (CT) in the same instrument. The ST80 with AST measures in CT mode when measuring in lower flow ranges and start-up conditions, and will transparently and seamlessly shift to CP mode at mid-range and higher flow rates. The result is a best of both technologies where ST80 delivers extremely fast response with extended measuring ranges, at low power consumption which maximizes sensor reliability and reduces energy expenses

The available outputs and user interfaces with the ST80 meter are extensive to ensure interfacing with virtually any control system and/or set-up or configuration devices. Standard outputs include dual, NAMUR NE43 compliant 4-20 mA analog outputs, HART (version 7), Modbus 485 and a USB port. FOUNDATION Fieldbus, PROFIBUS PA, or PROFIBUS DP can be optionally added.

A best-in-class, backlighted informational LCD display provides digital and bar graph readouts of the processes flow rate and temperature, totalized flow, alarm conditions, instrument health and diagnostics feedback, and a user defined label field. The ST80 can be further enhanced by adding a four-button user interface activated through the glass, without removing the lid. This means the ST80 can be changed, interrogated, and period diagnostic modes initiated without removing the instrument from the process, even in a hazardous areas.

The transmitter enclosure is NEMA 4X/IP67 rated, with NPT or metric conduit ports, and is available in either aluminum or 316L stainless steel. It may also be remotely located up to 1000 feet [305 m] apart from the flow element.

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 and temperature of air and gases.